DOCUMENT RESUME

ED 183 620 TM 800 035

TITLE	Massachusetts Assessment of Basic Skills 1978-79. Technical Report. Mathematics, Reading, Writing.
INSTITUTION	Massachusetts State Dept. of Education, Boston. Bureau of Research and Assessment.
PUB DATE	Sep 79
NOTE	220p.; Pages 90-95 may be marginally legible.
EDRS PRICE	MF01/PC09 Plus Postage.
DESCRIPTORS	Academic Achievement; *Achievement Tests; *Basic Skills; Criterion Referenced Tests; *Educational Assessment; Educational Objectives; Essay Tests; Grade 12; Item Analysis; Mathematics; Questionnaires; Reading Achievement; Sampling; Senior High Schools; *State Programs; Test Interpretation; Test Results; Writing
IDENTIFIERS	Massachusetts

ABSTRACT

As part of a series of annual evaluations of the knowledge, understanding, skills, and attitudes of Massachusetts public-school students, this report represents the assessment of basic skills attainment of grade 12 students. The first three chapters contain a summary of the design and methodology of the testing program. The remaining five chapters present the results of the student questionnaire, the principal questionnaire, and the achievement test results in mathematics, reading, and writing for the tests as a whole and for the items separately. A two-stage stratified cluster design was used to select a representative sample of students in grade 12 from six geographic areas and four kinds of communities: big cities, industrial suburbs, residential suburbs, and other communities. Each student was administered one of the three tests. (Author/CTM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED183620

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
C. DiBella
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Massachusetts Assessment of Basic Skills 1978-79

TM800 035

Technical Report

Massachusetts Department of Education

2

MASSACHUSETTS BOARD OF EDUCATION

Charles T. Grigsby, Chairperson

Anne H. McHugh, Vice Chairperson

John Anthony
Mary Barros
John W. Bond
James L. Green
Howard A. Greis
Mary Ann Hardenbergh
Joseph Mello, Jr.
Edwin Rossman

Gregory R. Anrig
Commissioner of Education

Ex Officio Member:

Edward McGuire, Chancellor
Board of Higher Education

BUREAU OF RESEARCH AND ASSESSMENT

Allan S. Hartman
Tracy Libros
Leslie S. May
Adele Sullivan
Matthew H. Towle

The Massachusetts Department of Education insures equal employment/educational opportunities/affirmative action, regardless of race, color, creed, national origin, or sex, in compliance with Title IX, or handicap in compliance with Section 504.

NOV 1979
RECEIVED
ERIC/TM

Massachusetts Assessment of Basic Skills 1978-79

TECHNICAL REPORT

MATHEMATICS · READING · WRITING

Massachusetts Department of Education
Bureau of Research and Assessment
31 St. James Avenue
Boston, Massachusetts 02116

September 1979

Publication #11478 approved by Alfred C. Holland, State Purchasing Agent

TABLE OF CONTENTS

	Page
OVERVIEW	1
Introduction	1
Measurement Instruments	2
Organization of This Report	3
CHAPTER 1: Sampling Design and Implementation	4
Introduction	4
Requirements of the Sampling Design	4
General Framework of the Sampling Plan	5
Determining the Sample Size	6
Implementation of School Sampling	8
Implementation of Student Sampling	9
Student Participation in Testing	11
CHAPTER 2: Data Collection and Handling	13
Field Contact	13
Test Administration	14
Coding, Scoring, and Data Processing	15
Sampling Weights	15
The Local Option	16
CHAPTER 3: Data Analysis and Interpretation	22
Goals of Data Analysis	22
Interpretive Issues	22
CHAPTER 4: Results of the Student and Principal Questionnaires	25
Introduction	25
Results of the Student Questionnaire	25
Results of the Principal Questionnaire	25

Page

CHAPTER 5: Achievement Results: Mathematics. 38

Introduction. 38
Achievement on the Total Test 40
Achievement on Areas. 42
Achievement on Items. 42

CHAPTER 6: Achievement Results: Reading. 64

Introduction. 64
Achievement on the Total Test 65
Achievement on Areas. 65
Achievement on Items. 68

CHAPTER 7: Achievement Results: Writing. 86

Introduction. 86
Scoring the Writing Exercises 88
Results of the Writing Assessment 89
The Writing Substudy. 97

CHAPTER 8: Achievement Results for Reporting Groups 100

Introduction. 100
Achievement Results by Subject Area 100

APPENDICES:

A: Identification of Region and Kind of Community for Massachusetts School Districts. 137

B: A Copy of the Student Questionnaire Instrument. 141

C: A Copy of the Principal Questionnaire Instrument. 145

ACKNOWLEDGMENTS. 150

LIST OF TABLES AND FIGURES

		Page
TABLE 1.1:	Population Size and Number of Students Selected for Assessment Across Sampling Categories	10
TABLE 1.2:	Number of Projected and Participating Students in Each Subject Area by Stratum	12
TABLE 2.1:	Sampling Weights Based on Participation Data for Mathematics	17
TABLE 2.2:	Sampling Weights Based on Participation Data for Reading	18
TABLE 2.3:	Sampling Weights Based on Participation Data for Writing	19
TABLE 4.1:	Frequency Distribution of Student Questionnaire Responses for All Three Subject Areas	26
TABLE 4.2:	Frequency Distribution of Principal Questionnaire Responses	32
TABLE 5.1:	Decile Distribution of Total Mathematics Test Score.	41
FIGURE 5.2:	Achievement of Massachusetts Students on Total Test and Each Area: Mathematics.	43
TABLE 5.3:	Item Statistics by Specification: Mathematics.	44
TABLE 5.4:	Performance of Massachusetts Students on Mathematics Items, Objectives, and Areas.	50

Page

TABLE 6.1: Decile Distribution of Total Reading Test Score 66

FIGURE 6.2: Achievement of Massachusetts Students on Total Test and Each Area: Reading. 67

TABLE 6.3: Item Statistics by Specification: Reading. 69

TABLE 6.4: Performance of Massachusetts Students on Reading Items, Objectives, and Areas. 72

FIGURE 7.1: Distribution of Writing Scores for Massachusetts Students. 98

TABLE 8.1: Total Test Achievement by Student Questionnaire Reporting Groups: Mathematics. 103

TABLE 8.2: Total Test Achievement by Principal Questionnaire Reporting Groups: Mathematics. 107

TABLE 8.3: Area Achievement by Selected Reporting Groups: Mathematics 111

TABLE 8.4: Total Test Achievement by Student Questionnaire Reporting Groups: Reading. 117

TABLE 8.5: Total Test Achievement by Principal Questionnaire Reporting Groups: Reading. 121

TABLE 8.6: Area Achievement by Selected Reporting Groups: Reading 125

TABLE 8.7: Mean Scores for Writing Items by Reporting Group: Student Questionnaire 130

TABLE 8.8: Mean Scores for Writing Items by Reporting Group: Principal Questionnaire 134

OVERVIEW

Introduction

Purpose. The 1978-79 Massachusetts Assessment of Basic Skills represents a continuation of the series of annual evaluations of the knowledge, understanding, skills, and attitudes of Massachusetts public-school students. This year's program was specifically designed to assist in the implementation of the State Board of Education Policy on Basic Skills Improvement. Therefore, testing this year was conducted in the basic skills areas of mathematics, reading, and writing. Reflecting both ongoing and newly emerging purposes, the goals of the 1978-79 assessment were to:

- provide useful and accurate information on the quality of education in Massachusetts to educators, school administrators, students, parents, and the public at large.
- provide state-level decision makers with baseline information on basic skills achievement to gauge statewide progress and to determine future educational policy.
- enable school districts to collect local baseline information and to implement their own assessment practices by making statewide assessment procedures and tests available to them.
- develop sets of alternate basic skills tests to be made available to school districts for use in the implementation of the Policy on Basic Skills Improvement.

Background. Since 1974, Massachusetts statewide assessments have been conducted in reading, mathematics, writing, social studies, citizenship, science, ecology, consumer education, career and occupational education, foreign languages, decision making, and school climate. This year, the basic skills assessments in the areas of mathematics, reading, and writing were conducted by National Evaluation Systems, Inc. (NES) of Amherst, Massachusetts, under contract to the Massachusetts Department of Education (MDE). Staff of both NES and MDE worked jointly on all aspects of the assessment program. Major program components included the development of the test instruments, administration of the tests to a sample of twelfth-graders throughout the state, analysis and interpretation of the data, and dissemination of the results. In conjunction with the statewide assessment, MDE provided local districts an opportunity to use the state's custom-designed materials to assess their own students through local option assessments.

Because of the close relationship between this year's assessment and the Policy on Basic Skills Improvement, it would be well to review the history of that Policy and its implementation so that the activities described in this report are placed in the proper context. In August 1978, after over two years of public deliberation and recommendations from an Advisory Committee on High School Graduation Requirements, the State Board of Education unanimously adopted the Policy on Basic Skills Improvement.

As a first step in implementing the Policy, the Department began the development and administration during 1978-79 of secondary-level basic skills tests in reading, writing, and mathematics. These tests are described in this report. The format and content of these tests will serve as models for equivalent basic skills tests which will be made available by the State Department of Education for future use by local school systems.

The Advisory Committee (now known as the Advisory Committee on Basic Skills Improvement) had formed two Task Forces during 1976-77--one in Communications and one in Mathematics. Task Force members included content area specialists, teachers, guidance counselors, school administrators, students, parents, and representatives of the business community. The Communications Task Force was further divided into Reading, Writing, and Listening/Speaking Committees.

During 1977-78, one of the major responsibilities of each Task Force was to develop secondary-level learning objectives so as to define the set of basic skills in each subject area. Late in the fall of 1978 lists of reading, writing, and mathematics objectives (as well as listening and speaking objectives) were discussed at public hearings and were the subject of a public opinion survey conducted by Clark University. Members of the Task Forces served on three separate committees (in Reading, Writing, and Mathematics) as subject-matter specialists for the duration of the 1978-79 assessment.

These committees used the findings of the survey and hearings to refine the lists of objectives. These lists were presented in January 1979 to the State Board of Education, which incorporated them as part of its Basic Skills Improvement Policy and Regulations. The objectives for each subject area are listed in this report in the appropriate chapters.

Measurement Instruments

The tests. The Mathematics, Reading, and Writing Committees provided leadership to the test development effort. After the objectives had been defined, the committees set about the task of selecting test items which

would measure the basic skills specified by those objectives. Each committee was provided with a large pool of items from which to choose. The committees discussed each item in the pool and often suggested revisions to make the items more appropriate.

After careful consideration, the respective committees chose 59 multiple-choice items for the Mathematics test and 55 multiple-choice items for the Reading test. Each item was matched to one of the specific objectives published in the Basic Skills Improvement Regulations. By contrast, the Writing test consisted of two writing exercises, one requiring students to write a letter of complaint to a shirt manufacturer and the other requiring students to write an essay about a memorable person from the student's past. The method of scoring the written response to each of these exercises allowed for an *overall* evaluation of student achievement of the writing objectives established in the Regulations.

Student and principal questionnaires. The purpose of developing student and principal questionnaires was twofold: (1) to identify characteristics of students and their schools that might bear a relationship to achievement and, more importantly, (2) to provide a general characterization of students and schools that might prove useful in examining the impact of the Policy on Basic Skills Improvement over subsequent years. Questionnaires were administered to all participating students and to principals of all schools enrolling these students.

Organization of This Report

The first three chapters of this report contain a summary of the design and methodology of the assessment. The remaining chapters present the results of the questionnaires and the achievement results in all three subject areas.

CHAPTER 1

SAMPLING DESIGN AND IMPLEMENTATION

Introduction

To increase the reliability of the data collected and to reduce the impact of statewide testing activities on schools, a sampling approach to assessment was adopted. A two-stage stratified cluster design was used to select a random sample of students from the population for each subject area. The sampling plan was based on the actual distribution of the eleventh-grade student population in the 1977-78 school year.

This section discusses in detail requirements of the sampling design, the general framework of the sampling plan, and the procedures used in determining sample sizes. In addition, it presents the procedures for implementing sampling of schools and students, as well as a description of the numbers of students actually participating in testing activities.

Requirements of the Sampling Design

Several requirements were met by the sampling design:

(1) Each sample is representative of the entire target population in terms of the selected stratification variables (region and kind of community).

(2) The size of each sample drawn is sufficiently large to generalize reliably to the performance of all twelfth-grade Massachusetts students.

(3) All Massachusetts public schools containing students in grade 12 are eligible for selection.

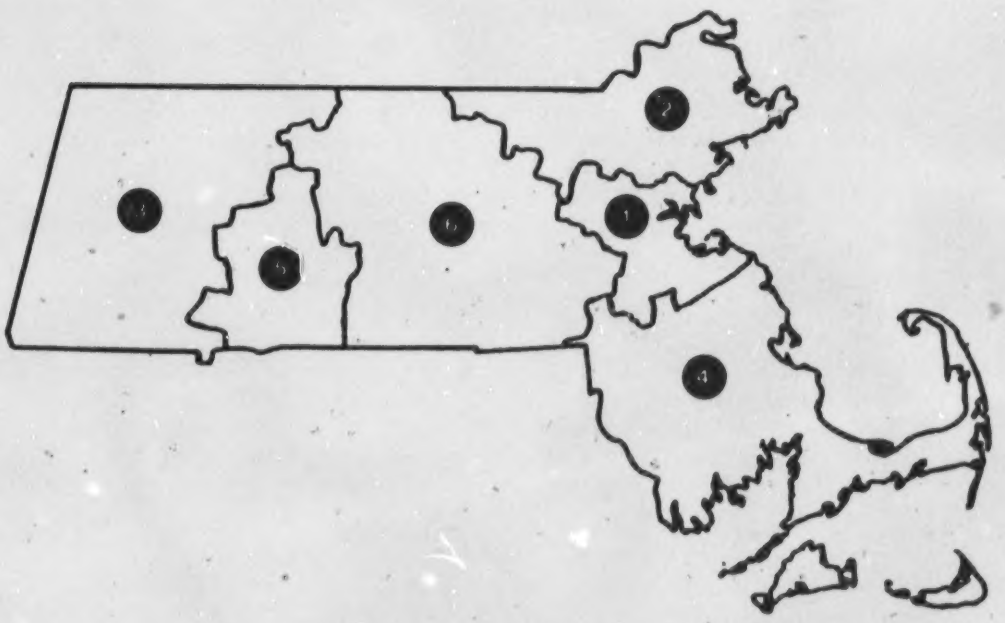
(4) The sample is a probability sample at all stages of the selection process; that is, each eligible school has a chance of being selected proportional to its population, and each student in the state has a positive chance of being chosen.

(5) Students are clustered into school buildings and selection of schools occurs before the assignment of individual students from

within these schools. When a school is chosen, *all* twelfth-graders in that school are selected for testing. Each assigned student is administered only *one* of the three subject area tests.

General Framework of the Sampling Plan

Two stratification variables were selected for the sampling plan: (1) educational region of the state and (2) kind of community. The map below shows the division of the state into regions. Each region is identified in the key below the map. The names assigned to each region are for identification purposes only; each region is composed of a larger area than might be suggested by its name alone. For example, the Boston Region contains a number of communities outside the Greater Boston area.



1. Boston Region
2. Northeast Region
3. Pittsfield Region
4. Southeast Region
5. Springfield Region
6. Central Mass. Region

The four kinds of communities (KOC) were defined as follows:

- BIG CITIES: communities designated as central cities according to the 1970 United States Census. Examples of communities classified as Big Cities (although not necessarily in the sample) include Boston, Brockton, Haverhill, Holyoke, Lawrence, and Worcester.

- INDUSTRIAL SUBURBS: suburbs of central cities with below-average family income ($16,000) and with more than 20% commercial and 7% industrial land use. Examples include Cambridge, Chelsea, Medford, Quincy, Peabody, Waltham, Lee, and Monson.

- RESIDENTIAL SUBURBS: suburbs of central cities other than Boston with above-average family income, and all nonindustrial suburbs of Boston. Examples include Arlington, Braintree, Framingham, Scituate, Walpole, Andover, Dover, Milton, Newton, Chelmsford, Shrewsbury, and Wilbraham.

- OTHER COMMUNITIES: resort towns in the Cape Cod and Berkshire areas, nonindustrial suburbs of cities other than Boston with below-average family income, towns with below-average family income, and communities with a population of less than 2,500. Examples include Barnstable, Chatham, Yarmouth, Stockbridge, Bridgewater, Hadley, Oxford, Stoughton, Newburyport, Taunton, Ayer, Kingston, Orange, Webster, Ashfield, Dunstable, and Plympton.

According to this stratification plan, schools with similar characteristics could be grouped together and assigned to one of the 24 stratification categories which resulted from a crossing of the two variables. Appendix A contains a listing of all Massachusetts school systems, with their respective region and kind-of-community identifications.

Determining the Sample Size

Introduction. The size of the sample of students to be tested was determined on the basis of (1) the level of precision desired by MDE in making generalizations to the performance of the population as a whole and of the various stratified reporting groups, (2) the size of the total student population, (3) the size of the student population in each stratum, and (4) the size of the student population in each category of the strata.

Sampling precision. Whenever estimates about a population are to be made based on data collected from a sample, those estimates are subject to error. Error is the probable difference between the score of the sample and the true score of the population. Sampling precision refers to the maximum degree of error which will be tolerated in making generalizations. Toleration of a sampling error of .02 (two percentage points), for example, would mean the following: if, in a sample of twelfth-graders, an average of 86% of the items on a test is answered correctly, then the true score of the population probably lies between 84% and 88%.

The above probability statement is made in educational practice at a 95% confidence level. That is, the true score, in the above example, is expected to lie somewhere between 84% and 88% for 95 out of 100 samples; for 5% of the samples, the true score will lie outside this range. This level of confidence is generally considered sufficient for educational research.

The greater the level of precision desired, the greater the number of students that must be tested. A desire for precision must be balanced against potential costs. In general, increasing precision increases the cost--defined in terms of both dollars and time (of students, test administrators, and clerical-administrative personnel). As the sample size is increased, there is a political cost as well, resulting primarily from the increased impact on the activities of participating schools.

Based upon consideration of the foregoing concerns, MDE adopted a level of precision tolerating a 2% (two percentage points) error for the total population. Based on the size of the overall population of students, and the proposed sampling design, it was determined that a sample of 3,600 students for each subject area would be sufficient for these purposes. To allow for the inevitable attrition of students from those selected to participate, it was necessary to select at least 4,500 students for testing in each subject area.

It was also necessary to augment the number of sampled students to permit the collection of additional test item information for future equivalent test forms. For Reading and Mathematics, new items were field-tested by administering extra pilot items to each student completing a Reading or Mathematics test. Technical considerations necessitated that the number of sampled students be increased from 4,500 to 6,000 for these two subject areas. The statewide sample was not increased for Writing because a separate sample of 1,500 students was chosen to be administered the pilot writing exercises.

To summarize, 16,500 students were selected for possible participation in the assessment. Of these, 4,500 were assigned to take the Writing test, and 6,000 to take each of the Reading and Mathematics tests. (These numbers correspond to 28%, 36%, and 36% of the selected students being assigned to the Writing, Reading, and Mathematics tests, respectively.)

Size of the sample in each cell of the sampling frame. Given the total number of students to be tested, the allocation of numbers of students to each sampling category or cell was made on the basis of the ratio of students in the population of the cell relative to the total student population. That is, the proportion of all students assigned to a particular cell corresponded to the proportion of twelfth-graders (relative to the total in-grade population) contained in the cell.

However, due to the need to oversample cells with unusually small populations, the proportional distribution of sampled students was not exactly equivalent to population parameters. Sampling weights, ultimately computed on the basis of the actual number of students taking the tests, insure that the average scores for the population and reporting groups are correctly estimated from the sample scores.

Implementation of School Sampling

Step 1. The first step in implementing the sampling design was the construction of a sampling frame--that is, a list of all sampling units (in this case, school buildings) in the population to be sampled. A sampling frame of all eligible schools was constructed based on information provided by MDE. When the information was updated and verified, each school was assigned a region status and a kind-of-community status.

Step 2. Following this assignment, the next step was to divide the sampling frame into separate frames for each stratified category. The frame was broken down into 24 separate lists, one corresponding to each of the 24 stratification categories. Schools were listed along with their estimated twelfth-grade enrollment and cumulative population intervals. For example, suppose that in a given category there were three schools, with student enrollments of 100, 200, and 400, respectively. Then School A would be listed as containing students 1-100, School B students 101-300, and School C students 301-700.

Step 3. The next step was to select the schools from the frame for a *given category*. This selection occurred by using the list of all eligible schools and their cumulative population intervals. The following procedure was used:

(A) A random number table was used to select a random number between 1 and the total population size of the cell.

(B) The school whose cumulative population interval contained that number was selected. In the above example, if the random number happened to be 171, School B would be chosen. If the number were 307, School C would be chosen. Note that this method provides that large schools will be more likely to be selected than small schools, since it is more likely that the random number will fall in a larger interval than a smaller one. In the example above, School C is twice as likely to be selected as School B, since it has twice as many students.

(C) The selected school's twelfth-grade enrollment size was noted and added to the total number of students chosen from that cell so far.

(D) If the total number of students chosen at this point was close to or larger than the targeted sample size for that cell, the sampling procedure for that cell was completed. If not, another random number was selected and the process resumed at step B.

This procedure, implemented separately for each category, insured that all students and schools within a stratum had a positive probability of being selected. All estimates of the performance of the population and respective reporting groups were made from properly weighted data.

Table 1.1 presents the final allocation of students to the individual categories of the sampling frame, as well as the corresponding population parameters. The top portion of each cell shows the number of students in the category population, while the bottom portion shows the total number of students in all three subject areas selected for possible participation (i.e., *before* attrition).

Implementation of Student Sampling

Introduction. Once the participating schools had been selected, the second stage of the plan was implemented. In the second stage each twelfth-grade student within each chosen school was assigned to participate in one of the three subject area assessments. All twelfth-graders were eligible for participation *except for* those who were currently enrolled in a Transitional Bilingual Education program. While students in Special Education programs did participate in the assessment, the test results of those students are not included in this report. A separate report on those students was submitted to the Division of Special Education in the Department of Education.

TABLE 1.1

Population Size and Number of Students Selected for Assessment Across Sampling Categories

DEPARTMENT OF EDUCATION REGION	KIND OF COMMUNITY: Big Cities 1	Industrial Suburbs 2	Residential Suburbs 3	Other Communities 4	TOTAL
Boston 1	4266 / 568	6931 / 1059	12701 / 2185	0 / 0	23898 / 3812
Northeast 2	2052 / 430	2525 / 495	11437 / 1798	5238 / 939	21252 / 3662
Pittsfield 3	1015 / 530	142 / 142	275 / 275	2486 / 351	3918 / 1298
Southeast 4	3815 / 821	0 / 0	3900 / 748	9003 / 1429	16718 / 2998
Springfield 5	3744 / 880	304 / 95	1464 / 256	3215 / 589	8727 / 1820
Central Mass. 6	2945 / 501	552 / 246	5396 / 999	6585 / 1227	15478 / 2973
TOTAL	17837 / 3730	10454 / 2037	35173 / 6261	26527 / 4535	89991 / 16563

(Each cell: Population Size / Projected Sample Size)

NOTE: To compute the number of students selected for participation in the Writing test, multiply each projected sample size by .28. To compute the number of students selected for participation in the Reading or Mathematics test, multiply each entry by .36.

Procedure. In order to implement the sampling of students, the principal of each selected school received a letter outlining the testing procedure. Each principal was asked to indicate whether students were to be tested in small classrooms (such as homerooms or senior English classes), or in a large setting (such as an auditorium or cafeteria).

One of two methods was then used to assign each student to one of the three subject area tests. If the principal indicated that students were to be tested in small classrooms, all the students in each homeroom were assigned to the same subject area test. Then each homeroom was assigned to one of the three subject area tests on a random basis. If, however, the principal indicated that all twelfth-graders would be tested in a large setting, each student was randomly assigned to one of the three subject area tests by random distribution of the test booklets at the test site. In both methods, an attempt was made for each school to assign about 28% of the students to the Writing test, about 36% of the students to the Reading test, and about 36% of the students to the Mathematics test. In this way the sample sizes for the three subject areas would be as close as possible to the desired sample sizes.

Student Participation in Testing

Table 1.2 provides a summary of the number of students sampled and actually participating in the assessment in each subject area. The actual attrition rate was approximately 31%, which was considerably higher than the projected attrition rate of 20%. This higher rate is most likely due to the fact that the original enrollment figures were higher than the actual enrollment figures at the time of testing, as well as to the fact that the absenteeism rate among high school seniors was higher than expected.

TABLE 1.2

Number of Projected and Participating Students
in Each Subject Area by Stratum

Reporting Category	*Selected Sample Size	Actual Sample Size			
		Total	Reading	Mathematics	Writing
TOTAL	16563	11471	4141	4020	3310
REGION					
1. Boston	3812	2485	897	906	682
2. Northeast	3662	2227	733	796	698
3. Pittsfield	1298	1143	380	367	396
4. Southeast	2998	2199	883	720	596
5. Springfield	1820	1321	522	501	298
6. Central Mass.	2973	2096	726	730	640
KIND OF COMMUNITY					
1. Big Cities	3730	2386	858	906	622
2. Industrial Suburbs	2037	1621	539	540	542
3. Residential Suburbs	6261	4270	1590	1526	1154
4. Other Communities	4535	3194	1154	1048	992

* Total number of twelfth-grade students in selected schools

CHAPTER 2

DATA COLLECTION AND HANDLING

Field Contact

Contact with school and district personnel, initiated in November of 1978, was designed to alert local personnel to the assessment and to provide detailed information on both the statewide and local phases of the assessment. Related activities included substantial contact with school and district personnel, both by mail and by telephone.

NES mailed to the superintendents of every Massachusetts school district letters and question-and-answer brochures describing both phases of the assessment. These letters included sample Local Option results reports and a Local Option Participation Form. NES sent follow-up mailings to those districts which did not respond in order to ensure that each district had received the information and had considered Local Option participation. Close contact was maintained throughout the school year with those districts which chose to participate in the Local Option in order to provide direction and assistance as needed.

Following is a brief description of subsequent contact by NES staff with school and district personnel involved *only* in the statewide sample:

(1) Superintendents of all sampled school districts received a letter outlining the schedule of events and listing by name those schools selected in their districts.

(2) Principals of all selected schools received a letter and question-and-answer brochure describing the assessment program and outlining the scheduled responsibility of each principal.

(3) A NES coordinator made telephone calls to all participating principals to schedule testing of selected schools. Every effort was made to accommodate the scheduling needs of individual schools. In order to minimize disruption of daily activities in selected schools, principals were offered the option to select one of two testing methods for their school. Principals could elect to have their own teachers administer the tests under the supervision of a NES Chief Test Administrator, or to have NES supply all test administrators.

(4) A letter enclosing the principal questionnaire and requesting its completion was mailed to the principals of all schools containing statewide sample groups. Follow-up letters were sent to principals who did not initially respond.

NES staff made every effort to describe fully the aims and activities of the program, to describe with clarity the responsibilities of school personnel, and to foster cooperation with the program. Throughout the contact period, NES encouraged school personnel to call collect with any questions or concerns relative to the assessment.

Test Administration

Test sessions were conducted by local teachers under the supervision of Chief Test Administrators who had been trained by NES. Testing sessions lasted about 90 minutes. For Reading and Mathematics, students spent up to 60 minutes on the test itself, 15 minutes on the student questionnaire, and 15 minutes on a small set of additional items being field-tested for future equivalent test forms. For Writing, the students were allowed 70 minutes to complete the writing exercises and 15 minutes to complete the student questionnaire. Field-testing of additional writing items for the equivalent test forms took place in separate test sessions.

All data collection occurred during March and April 1979. More than 11,000 students took part in the assessment. Of these, 4,020 took the Mathematics test, 4,141 took the Reading test, and 3,310 took the Writing test. The students were enrolled in 55 high schools throughout the Commonwealth.

To insure standardized testing sessions, workshops on test administration procedures were provided for test administrators. Statewide administrators were trained with respect to: (1) the research design of the assessment program; (2) school and student selection procedures; (3) test administration; (4) administration of the student questionnaire; (5) classroom procedures (including assembling of students, introducing the test, distribution and collection of materials, and handling of common and unusual situations); (6) special responsibilities (including advance telephone calls to principals to verify appointments and procedures for cancellation, postponement, or rescheduling of testing sessions); and (7) field editing procedures. These responsibilities were described in detail in a test administrators' manual. In addition, test administrators were urged to call collect to NES if any special problems occurred.

Coding, Scoring, and Data Processing

All test booklets and answer sheets were subjected to an in-house edit at NES, including (1) a check on the coding of student, school, and district identification information; and (2) an edit for stray marks and double responses on answer sheets for the multiple-choice questions in Reading and Mathematics.

The responses for each student's answer sheet in Reading and Mathematics were scanned and listed on a data tape. Responses to the Writing exercises were scored by the holistic method. These scores, as well as student responses to the questionnaire, were keypunched, verified, and listed on a data tape.

The data tape for each subject area contained one record for each student completing the test package. This record included: (1) information given by the student on the student questionnaire; (2) the student's responses to each of the exercises; (3) a numerical identification code which permitted the rematching of each student record to its original test document should that prove necessary; and (4) responses on the matching school principal questionnaire and stratification information for the student's school.

Prior to data processing, the data tape was scanned for invalid entries and updated where necessary. All response data on the data tape were entered in raw-score form and converted to the percentage form as needed. Data reduction needs were determined and files were transformed where appropriate, including proper weighting of scores to provide estimates of the population from sample data. All student data (test scores and questionnaire data) were weighted; only principal questionnaire data remained unweighted, since sampling was based on generalizing to students, not schools.

Sampling Weights

To analyze the data for reporting purposes, sampling weights were applied to insure that the results from students in each of the 24 categories of the sampling frame contributed in the proper proportion to the results for the population. For example, if 10% of the students in Massachusetts reside in Other Communities in the Southeast Region, then 10% of the students in the sample should also be from that cell. If the sample were an exact microcosm of the population, there would be no need for sampling weights. In practice, however, this is rarely the case, due to a variety of factors, such as different student attrition in different

cells. Sampling weights based on actual student participation must be used to correct for disparities between the composition of the sample and the composition of the population.

In the example above, suppose that more than 10% of the students in the sample were from Other Communities in the Southeast Region. That cell would therefore be over-represented in the sample, and a relatively low sampling weight would have to be applied to insure that the results of those students did not contribute disproportionately to the overall results. Conversely, a relatively high sampling weight would be necessitated in cells which were under-represented in the sample. Tables 2.1, 2.2, and 2.3 present the actual sampling weights applied to the data on the basis of the participation data presented earlier according to subject area.

The Local Option

The Local Option phase of the assessment program allowed participating districts to examine in detail the achievement of their own students in a single class or throughout the district by contracting directly with NES. Although the focus of statewide basic skills testing was on baseline information gathered at the twelfth-grade level, Local Option participants could elect to test at any level from seventh through twelfth grades. The results permitted local districts to: (1) examine students, classes, and districts as a whole; (2) examine special groups (e.g., male-female) utilizing precoding procedures provided by NES; (3) compare local achievement results at the twelfth-grade level with results gathered in statewide testing; and (4) gather local baseline information regarding basic skills achievement in grades 7-12. Sixty-two Massachusetts school systems participated in the Local Option at one or more grade levels and/or subject areas. About 13,000 tests were administered to students in each subject area. Services provided by NES to those districts participating in the Local Option were:

- training of test coordinators or administrators in test administration procedures at one of two regional workshops;
- delivery of test booklets and answer sheets;
- shipping charges for return of test booklets;
- editing and scoring of tests and data analysis;

TABLE 2.1

Sampling Weights Based on Participation Data for Mathematics

DEPARTMENT OF EDUCATION REGION	KIND OF COMMUNITY: Big Cities 1	Industrial Suburbs 2	Residential Suburbs 3	Other Communities 4
Boston 1	44.44	27.61	22.72	0
Northeast 2	16.03	19.57	27.56	42.24
Pittsfield 3	6.86	3.46	4.17	22.20
Southeast 4	19.08	0	21.91	26.32
Springfield 5	15.28	10.13	25.68	19.02
Central Mass. 6	33.09	6.20	21.50	21.88

TABLE 2.2

Sampling Weights Based on Participation Data for Reading

DEPARTMENT OF EDUCATION REGION	KIND OF COMMUNITY: Big Cities 1	Industrial Suburbs 2	Residential Suburbs 3	Other Communities 4
Boston 1	41.82	26.86	23.65	0
Northeast 2	29.74	20.20	28.74	37.15
Pittsfield 3	6.04	3.64	4.23	23.02
Southeast 4	18.25	0	16.39	20.65
Springfield 5	16.14	10.86	13.68	20.74
Central Mass. 6	37.76	6.20	22.02	20.97

TABLE 2.3

Sampling Weights Based on Participation Data for Writing

DEPARTMENT OF EDUCATION REGION	KIND OF COMMUNITY: Big Cities 1	Industrial Suburbs 2	Residential Suburbs 3	Other Communities 4
Boston 1	64.64	41.26	28.35	0
Northeast 2	19.73	21.22	38.90	28.94
Pittsfield 3	11.67	3.94	4.82	11.51
Southeast 4	22.84	0	30.95	29.71
Springfield 5	24.79	11.26	33.27	42.30
Central Mass. 6	62.66	2.88	29.17	30.49

- complete result reports as described below;
- assistance with interpretation of results at one of two regional workshops held after results had been returned to the districts.

Two copies of each result report produced by NES were provided. The reports are listed below.

READING AND MATHEMATICS

- For each student a:
  (1) Student Item Response Report
  (2) Student Summary Report
- For each class a:
  (1) Class Item Analysis Report
  (2) Class Summary Report
  (3) Class Questionnaire Report
- For each school a:
  (1) School Item Analysis Report
  (2) School Summary Report
  (3) School Questionnaire Report
- For the school system a:
  (1) School System Item Analysis Report
  (2) School System Summary Report
  (3) School System Questionnaire Report

WRITING

- For the test a:
  (1) Description of Item 1 and Scoring Criteria
  (2) Description of Item 2 and Scoring Criteria
- For each student a:
  (1) Student Score Report

- For each class a:

  (1) Class Summary Report
  (2) Class Questionnaire Report

- For each school a:

  (1) School Summary Report
  (2) School Questionnaire Report

- For each school system a:

  (1) School System Summary Report
  (2) School System Questionnaire Report

NES made every effort to ensure that the special needs of individual school districts were met wherever possible. Individual district results were supplied to each participating district on a confidential basis. No district, school, or student results from the Local Option were reported to the Department of Education.

CHAPTER 3

DATA ANALYSIS AND INTERPRETATION

Goals of Data Analysis

Overview. The goals of the data analysis plan developed jointly by staff members of NES and MDE were (1) to describe the achievement of students statewide, (2) to describe the achievement of students in selected reporting groups and to compare their achievement with that of students statewide, and (3) to describe selected characteristics of students and schools statewide.

All goals were accomplished by the selection of appropriate statistical analyses and proper weighting of scores. All achievement scores for Reading and Mathematics are reported in terms of the percentage of students responding correctly to a given item or in terms of the average percentage of a *set* of items answered correctly. Results for the Writing assessment appear in the form of the percentage of students who received each of the seven possible scores for each Writing test item or the average item score received by a group of students.

It should be emphasized that the results reported here indicate the average performance of twelfth-grade students throughout the Commonwealth. No results for schools or school systems are included. Only individual local assessment could serve that purpose. The present results will provide a baseline against which future programs in the basic skills may be compared.

Interpretive activities. In order to increase the usefulness of the results, the three Technical Committees, augmented by additional members, met for an all-day workshop at which results were presented. Using their professional judgment, the committee members generated a set of interpretive comments regarding the assessment results. These comments are incorporated in the results sections of the Summary Report which has been sent to all superintendents and secondary school principals and is available from MDE at its main or regional offices.

Interpretive Issues

All of the analyses conducted for the objective-referenced assessments of Reading and Mathematics involve the computation of the percentage

of students answering correctly each individual test item and average percent-correct scores for all items related to an objective or all items on a given test. Additional statistics included for these analyses are standard errors and tests of significance of differences between groups. Analysis of the Writing test is presented in terms of the percentage of students receiving a score from 2 to 8 and the mean score for each exercise.

The achievement scores presented in this report represent best estimates of the "true" achievement scores which would have been obtained had *all* students in the population, rather than a representative sample, been tested. Statistical techniques indicate that these estimates are most likely within two percentage points of the "true" scores of the population. If, for example, the statewide score is shown as 83%, it would be safe to say that the "true" statewide score is between 81% and 85%. The purpose of this reminder is to caution the reader to refrain from over-emphasizing small differences between scores.

The differences presented in this report which were statistically significant at the .05 level are indicated on the appropriate tables for Reading and Mathematics. Statistical significance means that a difference of the given magnitude could be expected to occur in repeated samplings only five times in 100 if, in fact, there were no differences between groups. While these results very likely reflect the actual performance differences between groups, they should not be used to infer the causes of these differences. For example, it may be shown that students who plan to attend a four-year college perform above the state average, but this does not imply that this characteristic causes higher performance. The difference, or relationship, may in fact be "caused" by other, perhaps unknown, variables.

The percent correct reported for the state as a whole and for the individual reporting groups are estimates based on probability samples, and, as such, have standard errors associated with them. The standard error is a statistical term which describes how close the sample score is likely to be to the "true" population score. The smaller the standard error, the greater the confidence we have that the true score is close to the observed sample score. The reported differences (effects) in performance between a given group and the state average are also estimates and have associated standard errors. The standard error of an effect depends on the size of the two samples, the percent of each group answering the item correctly, and other stratification and clustering effects. Therefore, the magnitudes of the standard errors vary considerably from comparison to comparison. For example, the standard errors of effect for just the first few variables in Table 8.1 (page 103) vary from 3.09 to 0.14, a greater than 20 to 1 ratio. An effect that is twice the size of its associated standard error is considered significant at the .05 level.

(The reader with a statistical background will recall that, for a simple t-test with a large number of observations, significance at the .05 level is obtained when the ratio of an effect to its standard error exceeds 1.96. Although the mathematics involved in computing the results described below are considerably more complicated, the basic concept is the same.)

It should be noted that some rather large effects are occasionally not statistically significant, while some rather small effects are in some instances significant. This is due to the fact that statistical significance is determined by the ratio of the effect to its standard error. To use another example from Table 8.1, an effect as large as 5.33 (i.e., a difference of more than five percentage points between the performance of one group and the statewide average) is not statistically significant since it is not at least twice as large as its standard error of 3.09. On the other hand, an effect as small as 0.55 is shown to be statistically significant because it is more than twice as large as its standard error of 0.14. The reader should therefore exercise caution in interpreting statistically significant differences. Statistical significance should not be equated with practical importance or educational meaningfulness. Just as acceptable levels of performance must be judged on the basis of educational expectations, the magnitude of differences observed between groups should similarly be judged not only on the basis of statistical significance but also on the basis of educational meaningfulness.

CHAPTER 4

RESULTS OF THE STUDENT AND PRINCIPAL QUESTIONNAIRES

Introduction

The purpose of this chapter is to describe the results of the student and principal questionnaires. An examination of the responses by students and principals to questionnaire items may provide a policy-relevant characterization of students, principals, and schools throughout Massachusetts. Many of the questionnaire items included this year were intended to provide baseline information which may be used for comparison purposes if these same items are administered in the future, after the Policy on Basic Skills Improvement has been implemented fully.

Results of the Student Questionnaire

Analysis of the student questionnaire presented below provided the percentage of twelfth-graders who chose each response to each questionnaire item. The questionnaires were identical for all three subject areas with the exceptions of questions 6, 7, and 8. These questions were specific to the basic skills area in which a student was tested. The student questionnaires appear in Appendix B. Although the responses of the students taking the tests were analyzed in three separate groups (Mathematics, Reading, and Writing), the results for all three areas are summarized below in Table 4.1.

Results of the Principal Questionnaire

All principals of the 55 schools enrolling students in the statewide sample completed a questionnaire which contained items pertaining to school policy and principal attitudes. A copy of this questionnaire can be found in Appendix C. Although this instrument will be referred to as the "principal questionnaire," it should be understood that 29% of the principals reported that they had delegated the responsibility for completing the questionnaire to another person whom they felt was qualified to respond.

TABLE 4.1

Frequency Distribution of Student Questionnaire Responses for All Three Subject Areas

Item	Percentage of Students in Each Group		
	Reading	Writing	Mathematics
ALL STUDENTS	100	100	100
You are:			
male	48	46	49
female	50	52	49
You are:			
white	92	92	91
black	3	4	3
other	2	2	3
What language is spoken in your home most of the time?			
English	92	94	91
Spanish	1	1	1
Portuguese	2	2	2
Italian, Greek, or Chinese	1	1	2
other	2	1	2
Socio-economic status:			
lower	12	12	12
middle	31	32	33
higher	48	45	46

NOTE: Because of rounding error and/or nonresponses by students to questionnaire items, percentages do not always total to 100%.

Item	Percentage of Students in Each Group		
	Reading	Writing	Mathematics
Region:*			
Boston Region	21	21	22
Northeast	17	21	19
Pittsfield Region	9	12	9
Southeast	22	19	19
Springfield Region	13	9	13
Central Mass.	18	19	19
Kind of community:*			
Big Cities	20	20	20
Industrial Suburbs	12	12	12
Residential Suburbs	39	39	39
Other	30	29	30
Which of the following best describes the program or curriculum in which you are now enrolled?			
general program	15	14	12
vocational program	13	13	13
college-bound program	52	50	52
business (commercial) program	12	12	13
I don't know.	4	3	4

* Region and kind of community frequencies are included here for information purposes even though these were not student questionnaire items. Appendix A contains a list of all school districts and their respective region and kind of community.

TABLE 4.1 (continued)

Item	Percentage of Students in Each Group		
	Reading	Writing	Mathematics
How do you like your school? Think about it OVERALL, not just today or this week.			
I hate it.	7	6	8
I don't like it very much.	11	10	10
It's O.K.	33	34	35
I like it fairly well.	30	28	28
I like it a lot.	15	15	15
How often do your parents show an interest in what you do in school (for example, visiting your teachers at school or asking questions about your schoolwork or school activities)?			
hardly ever	15	14	15
once in a while	29	28	27
fairly often	28	29	30
very often	23	22	23
How often are you given homework or school assignments that involve drill work (e.g., practicing arithmetic problems or spelling words?			
three times a week or more often	41	36	40
once or twice a week	23	25	22
once or twice a month	12	12	10
once every few months or less often	20	19	23

Item	Percentage of Students in Each Group		
	Reading	Writing	Mathematics
How much time EACH DAY do you usually spend doing homework?			
an hour or less	55	50	53
between 1 and 2 hours	28	30	28
between 2 and 3 hours	10	9	10
more than 3 hours	4	4	4
MOST OF THE TEACHERS WHO TAUGHT ME READING, WRITING, AND MATHEMATICS:			
presented the subject in an interesting way.			
strongly agree	5	5	5
agree	55	51	54
disagree	31	32	30
strongly disagree	5	5	6
helped me understand how useful these skills will be in later life.			
strongly agree	10	9	9
agree	48	47	48
disagree	30	30	30
strongly disagree	7	7	8

TABLE 4.1 (continued)

Item	Percentage of Students in Each Group		
	Reading	Writing	Mathematics
knew the subject(s) well.			
strongly agree	29	29	31
agree	58	56	55
disagree	7	6	7
strongly disagree	2	1	2
were able to teach the subject(s) effectively.			
strongly agree	11	10	11
agree	64	60	62
disagree	18	19	18
strongly disagree	3	2	3
had difficulty controlling their classes.			
strongly agree	6	7	7
agree	21	20	21
disagree	55	53	53
strongly disagree	14	13	13
were willing to have students come to them for extra help.			
strongly agree	36	37	36
agree	51	49	49
disagree	6	5	6
strongly disagree	2	2	3

Item	Percentage of Students in Each Group		
	Reading	Writing	Mathematics
IN MY SCHOOL:			
students who want to continue their education after high school are well prepared to do so.			
strongly agree	21	18	21
agree	53	52	51
disagree	17	18	17
strongly disagree	5	4	5
students who want to get a job after they graduate are well prepared to do so.			
strongly agree	10	15	15
agree	51	53	52
disagree	24	22	22
strongly disagree	5	3	5
students can graduate without knowing how to read, write, or do arithmetic very well.			
strongly agree	10	9	10
agree	28	27	26
disagree	29	30	28
strongly disagree	29	27	30

TABLE 4.1 (continued)

Item	Percentage of Students in Each Group		
	Reading	Writing	Mathematics
students learn many things besides reading, writing, and mathematics that will be useful to them after they leave high school.			
strongly agree	30	31	30
agree	50	49	49
disagree	12	11	10
strongly disagree	4	2	5
most students find their classes too easy			
strongly agree	5	4	5
agree	21	19	21
disagree	60	63	58
strongly disagree	10	7	9
students have a lot of choice about what courses they can take.			
strongly agree	24	24	24
agree	48	46	46
disagree	16	16	15
strongly disagree	8	7	9
students are encouraged to pursue their interests in creative areas such as art or music.			
strongly agree	13	15	13
agree	40	39	40
disagree	28	29	27
strongly disagree	14	10	13

Item	Percentage of Students in Each Group		
	Reading	Writing	Mathematics
READING ITEMS			
Do you think students should be required to learn the skills measured by this [Reading] test by the time they finish high school?			
yes	84		
no	11		
How good has your schooling been in teaching you the reading skills measured by this test?			
very good	41		
good	41		
fair	11		
poor	3		
How often do you have difficulty reading things you need or want to read?			
hardly ever	50		
once in a while	39		
fairly often	5		
very often	2		

TABLE 4.1 (continued)

Item	Percentage of Students in Each Group		
	Reading	Writing	Mathematics
WRITING ITEMS			
Do you think students should be required to learn the skills measured by this [Writing] test by the time they finish high school?			
yes		81	
no		11	
How good has your schooling been in teaching you the writing skills measured by this test?			
very good		17	
good		50	
fair		23	
poor		3	
How often are you required to write a paragraph or more as part of your schoolwork or homework? (Consider such things as compositions, essays, reports.)			
three times a week or more often		13	
once or twice a week		43	
once or twice a month		26	
once every few months or less often		10	

Item	Percentage of Students in Each Group		
	Reading	Writing	Mathematics
MATHEMATICS ITEMS			
Do you think students should be required to learn the skills measured by this [Mathematics] test by the time they finish high school?			
yes			85
no			9
How good has your schooling been in teaching you the mathematics skills measured by this test?			
very good			43
good			34
fair			15
poor			3
What is the LAST grade in which you took a mathematics course? Count any mathematics course you are now taking.			
9th grade or earlier			3
10th grade			10
11th grade			22
12th grade			60

Analysis of the responses to the principal questionnaire serves to characterize the 55 schools which participated in the assessment. The reader should bear in mind that this number represents about one-sixth of all high schools in the Commonwealth. The data below in Table 4.2 are presented in terms of the percentage of principals selecting each response to each questionnaire item.

TABLE 4.2

Frequency Distribution of Principal Questionnaire Responses

Questionnaire Item	Percentage of Principals in Each Group
Please indicate who is completing this questionnaire:	
principal	71
other	29
What is your opinion of the amount of system-wide testing that affects students in your school?	
excessive	18
just right	60
not enough	22
What is your opinion of the quantity of the following course offerings in your school in relation to student needs and interests?	
elective enrichment courses	
excessive	4
just right	60
not enough	35
remedial courses	
excessive	2
just right	51
not enough	46

Questionnaire Item	Percentage of Principals in Each Group
What percent of twelfth-graders in your school are not expected to receive a high school diploma this June?	
0- 4%	78
5- 9%	16
10-14%	4
With respect to each of the following basic skill areas, which approach to providing instruction to low-achieving students PREDOMINATES in your school?	
READING	
instruction within regular classes	20
instruction in separate classes	76
other	0
MATHEMATICS	
instruction within regular classes	53
instruction in separate classes	46
other	2
WRITING	
instruction within regular classes	73
instruction in separate classes	18
other	6

NOTE: 2% represents approximately 1 principal. Because of rounding error and/or nonresponses by principals to questionnaire items, percentages do not always total to 100%.

TABLE 4.2 (continued)

Questionnaire Item	Percentage of Principals in Each Group
Overall, how would you rate parental support of your school's instructional policies?	
poor	0
fair	6
average	27
good	53
excellent	15
A number of methods have been suggested to improve basic skills instruction in today's schools. The methods involve either additional resources or reallocation of existing ones.	
Which ONE method would provide the MOST help in improving basic skills instruction in your school? That is, which would be your highest priority?	
more tutorial or remedial classes	18
better basic skills instructional materials	2
more inservice training for teachers	11
more teachers who specialize in basic skills instruction	6
more time and resources available for curriculum planning and development	11
more teacher aides	2
more emphasis on basic skills within the regular instructional program	46
other	6
Which method would be your SECOND choice; that is, your next highest priority?	
more tutorial or remedial classes	16
better basic skills instructional materials	9
more inservice training for teachers	9
more teachers who specialize in basic skills instruction	24
more time and resources available for curriculum planning and development	16
more teacher aides	4
more emphasis on basic skills within the regular instructional program	20
other	2

TABLE 4.2 (continued)

Questionnaire Item	Percentage of Principals in Each Group
What is your opinion of the amount of emphasis on basic skills instruction in your school in relation to the needs of the majority of your students?	
READING	
excessive	0
just right	53
not enough	46
WRITING	
excessive	0
just right	26
not enough	73
MATHEMATICS	
excessive	0
just right	62
not enough	36
Which of the following statements best describes the situation in grades nine through twelve of your school regarding ENGLISH COMPOSITION?	
ENGLISH COMPOSITION is taught as a separate course (apart from literature) and ALL students are REQUIRED to enroll.	26
ENGLISH COMPOSITION is taught as a separate course (apart from literature) and SOME students are REQUIRED to enroll.	6
ENGLISH COMPOSITION is offered as a separate course (apart from literature), but NO students are REQUIRED to enroll.	9
ENGLISH COMPOSITION is NOT taught as a separate course (apart from literature).	58
Which of the following statements best describes the situation in grades nine through twelve of your school regarding DEVELOPMENTAL READING? Please answer regarding developmental reading, as distinguished from literature and remedial reading courses.	
DEVELOPMENTAL READING is taught as a separate course, and ALL students are REQUIRED to enroll.	7
DEVELOPMENTAL READING is taught as a separate course, and SOME students are REQUIRED to enroll.	31
DEVELOPMENTAL READING is offered as a separate course, but NO students are REQUIRED to enroll.	31
DEVELOPMENTAL READING is NOT taught as a separate course.	31

TABLE 4.2 (continued)

Questionnaire Item	Percentage of Principals in Each Group
Do you require ALL students in your school to enroll in at least one MATHEMATICS course sometime during grades 9, 10, 11, or 12?	
yes	96
no	4
For 1978-79, has your district provided for staff and curriculum development in any of the following ways?	
inservice with credit	
yes	53
no	33
inservice without credit	
yes	71
no	22
half-day(s) released time	
yes	71
no	24
full-day(s) released time	
yes	22
no	60
visiting consultants	
yes	58
no	31
financial support for attending in-state conferences	
yes	86
no	7
professional days	
yes	91
no	4
summer curriculum development work	
yes	71
no	24
IN MY SCHOOL:	
most students know what they are expected to learn in their classes.	
strongly agree	6
agree	84
disagree	11
strongly disagree	0

TABLE 4.2 (continued)

Questionnaire Item	Percentage of Principals in Each Group
teachers are encouraged to design their own courses.	
strongly agree	11
agree	64
disagree	20
strongly disagree	6
many students do only as little as they have to.	
strongly agree	13
agree	58
disagree	26
strongly disagree	2
in many cases, a small group of students disrupts learning.	
strongly agree	26
agree	29
disagree	38
strongly disagree	2
most teachers have adequate time to give students extra help.	
strongly agree	16
agree	71
disagree	13
strongly disagree	0

Questionnaire Item	Percentage of Principals in Each Group
many teachers work hard to individualize instruction.	
strongly agree	4
agree	55
disagree	38
strongly disagree	0
students who want to continue their education after high school are well prepared to do so.	
strongly agree	24
agree	69
disagree	7
strongly disagree	0
students who want to get a job after they graduate are well prepared to do so.	
strongly agree	18
agree	42
disagree	36
strongly disagree	2
students can graduate without knowing how to read, write, or do arithmetic very well.	
strongly agree	6
agree	44
disagree	38
strongly disagree	7

TABLE 4.2 (continued)

Questionnaire Item	Percentage of Principals in Each Group
students learn many things besides reading, writing, and mathematics that will be useful to them after they leave high school.	
strongly agree	24
agree	75
disagree	2
strongly disagree	0
most students find their classes too easy.	
strongly agree	0
agree	31
disagree	67
strongly disagree	0

Questionnaire Item	Percentage of Principals in Each Group
students have a lot of choice about what courses they can take.	
strongly agree	16
agree	58
disagree	18
strongly disagree	7
students are encouraged to pursue their interests in creative areas such as art or music.	
strongly agree	16
agree	67
disagree	13
strongly disagree	4

CHAPTER 5

ACHIEVEMENT RESULTS: MATHEMATICS

Introduction

The purpose of this chapter is to examine the test performance of Massachusetts twelfth-graders in Mathematics. Each of the 59 multiple-choice items on the test was matched to one of 38 mathematics objectives below. These 38 objectives were grouped into six general categories, or "areas." The areas and objectives, as specified in the Policy on Basic Skills Improvement, are as follows.

A. Number and Numeration Concepts

1. Recognize number symbols (17, eighteen), whole numbers (34), fractions (½), decimals (3.75), and powers of 10 (10^2)
2. Identify odd and even numbers
3. Put numbers in numerical order
4. Recognize equivalent fractions [$\frac{2}{4} = \frac{1}{2}$]

B. Arithmetic Computation

5. Add, subtract, multiply, and divide whole numbers (4069 + 81 + 123, 254 x 17, 16300 ÷ 100)
6. Add and subtract mixed numbers [$2\frac{1}{2}$ − $1\frac{1}{4}$]
7. Multiply whole numbers or money by fractions (halves, quarters, thirds)
8. Add, subtract, multiply, and divide decimal numbers like money
9. Change a fraction to a decimal (¼ to .25)
10. Find a percent of a number in situations such as simple interest, discounts, commissions, and taxes

11. Use ratio and proportion (mixtures, recipes, scale drawings)

12. Use simple formulas ($A = \ell \times w$)

C. Estimation and Approximation

13. Round off numbers to a specified place

14. Approximate the answer to a computation problem (including discounts and percentages)

15. Estimate length, weight/mass, capacity, time, temperature, area, and volume

16. Estimate with money

D. Measurement and Geometry

17. Choose an appropriate unit of measurement in the U.S. customary system (for example: feet, pounds, and gallons)

18. Choose an appropriate unit of measurement in the metric system (for example: meters, kilograms, and liters)

19. Choose an appropriate measurement instrument involving both U.S. customary and metric units

20. Convert common measurements within the same system

21. Read a scale drawing

22. Use a map to compute highway distances

23. Relate total cost and cost per unit

24. Compute by using temperature

25. Compute by using time

26. Identify right angles and parallel, perpendicular, and intersecting lines like those in a street map

27. Recognize that an object has the shape of a square, rectangle, triangle, or parallelogram

28. Identify the radius, diameter, and center of a circle

29. Recognize that an object has the shape of a cube, cylinder, or sphere

30. Find the perimeter of a triangle, square, and rectangle

31. Find the area of a triangle, square, and rectangle

32. Find the volume of a cube or other rectangular solid

E. Graphs and Tables

33. Read a table

34. Interpret a bar graph

35. Interpret a circle graph

36. Interpret a line graph

F. Prediction of Events and Statistics

37. Understand probabilities like those used in weather forecasting or lotteries (the chance something will or will not happen)

38. Find and use averages (mean and median) for a group of numbers

Achievement on the Total Test

Total test performance of the students is presented in the form of a decile distribution (Table 5.1). This table shows the percentage of students scoring within each decile range. For example, 40.1% of students received a score between 91% and 100% on the test. Students answered correctly an average of 83.9% of all items on the Mathematics test.

TABLE 5.1

Decile Distribution of Total Mathematics Test Score

Decile Range of Correct Responses	Percentage of Students with Scores in Each Decile Range
0- 10%	0.2
11- 20%	0.1
21- 30%	0.3
31- 40%	0.7
41- 50%	1.6
51- 60%	4.0
61- 70%	8.6
71- 80%	15.6
81- 90%	28.8
91-100%	40.1

Achievement on Areas

As noted earlier, each of the 59 test items was matched to a particular objective, and each objective was grouped with other objectives to define a broader area. It is therefore possible to examine not only results for individual *items*, but also results for all items matched to a particular *objective* and for all items matched to a particular *area*.

Figure 5.2 shows the average percentage of matching items answered correctly for each of the six areas. Student performance was lowest on Area C, Estimation and Approximation (eight items), and on Area D, Measurement and Geometry (18 items), for which students answered an average of about 80% of the matched items correctly. Average student achievement was high for the five items matched to Area E, Graphs and Tables. About 92% of these items were answered correctly. Although average student performance on Area F, Prediction of Events and Statistics (94%), was even higher than student performance on Area E, the reader should note that this average is based on only two test items.

Achievement on Items

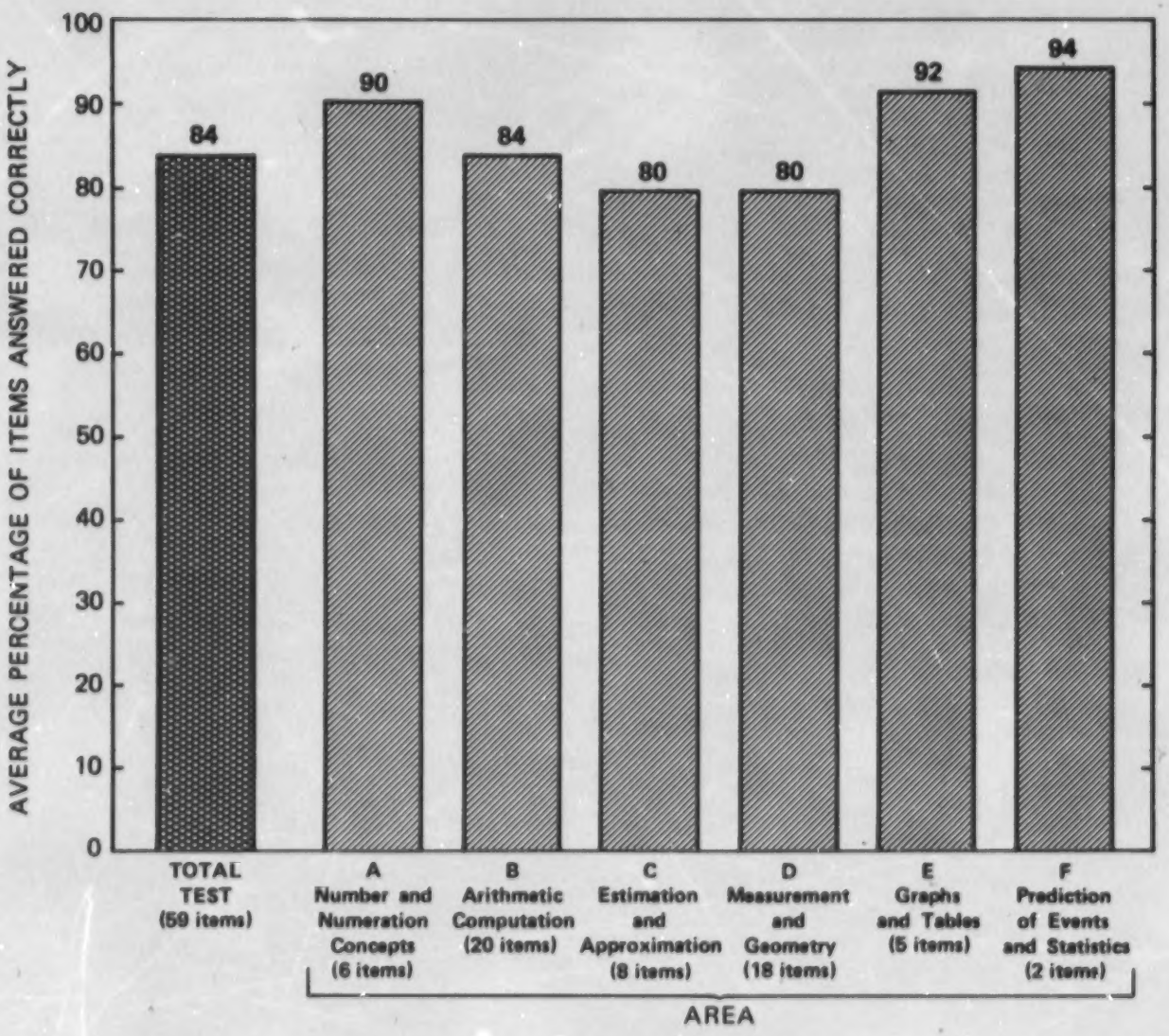
Information on individual items is shown in Table 5.3. These computer reports present the following information for each item:

- question position on the test;
- objective ("specification") number to which the item is matched;
- area ("domain") number to which the item is matched;
- the correct response (1 = A, 2 = B, 3 = C, 4 = D);
- percentage of students correctly answering the item;
- objective reliability (point-biserial correlation between the item and remaining items in the objective, if any--see definition on page 49);
- area reliability (point-biserial correlation between the item and remaining items in the area);
- test reliability (point-biserial correlation between the item and remaining items in the total test);
- the distribution of responses (the percentage of students choosing each response alternative or not responding).

The reader should note that in these computer reports the term "specification" refers to objectives and the term "domain" refers to areas.

FIGURE 5.2

Achievement of Massachusetts Students on Total Test and Each Area: Mathematics



NOTE: Total Test achievement is the average percentage of students answering correctly each of the 59 test items. It is equal to the *weighted average* of the achievement scores for each of the six Areas (i.e., each Area score must be weighted by the number of items in the Area).

TABLE 5.3

NATIONAL EVALUATION SYSTEMS, INC.
CRITERION-REFERENCED TEST ITEM RELIABILITY REPORT

ITEM STATISTICS BY SPECIFICATION

MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79
MATHEMATICS - FORM 1

QUESTION POSITION	SPEC	DOMAIN	COR ANS	PCT COR	SPEC REL	DOMS REL	TEST REL	DISTRIBUTION OF RESPONSES(%) NR	1	2	3	4
SPECIFICATION = 1												
1	1	1	3	96	0.60	0.39	0.22	0	1	2	96	0
2	1	1	4	97	0.58	0.40	0.23	0	0	0	3	97
3	1	1	3	91	0.77	0.54	0.36	0	0	2	91	6
SPECIFICATION = 2												
27	2	1	1	96	****	0.51	0.45	1	96	1	1	1
SPECIFICATION = 3												
28	3	1	3	80	****	0.62	0.34	0	2	1	80	17
SPECIFICATION = 4												
29	4	1	2	81	****	0.65	0.51	1	5	81	5	8
SPECIFICATION = 5												
33	5	2	1	96	0.47	0.31	0.28	0	96	1	2	0
34	5	2	3	90	0.57	0.34	0.29	0	1	6	90	2
35	5	2	3	95	0.48	0.31	0.28	0	0	1	95	3
36	5	2	4	90	0.56	0.37	0.31	1	5	2	3	90
37	5	2	2	92	0.63	0.41	0.35	1	2	92	4	2
39	5	2	1	85	0.62	0.54	0.46	1	85	5	5	3
SPECIFICATION = 6												
40	6	2	3	91	****	0.48	0.48	1	3	2	91	3
SPECIFICATION = 7												
41	7	2	3	82	****	0.54	0.52	1	4	10	82	2

TABLE 5.3 (continued)

NATIONAL EVALUATION SYSTEMS, INC.
CRITERION-REFERENCED TEST ITEM RELIABILITY REPORT

ITEM STATISTICS BY SPECIFICATION

MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79
MATHEMATICS - FORM 1

QUESTION POSITION	SPEC	DOMAIN	COR ANS	PCT COR	SPEC REL	DOMS REL	TEST REL	DISTRIBUTION OF RESPONSES(%) NR	1	2	3	4
SPECIFICATION =	8											
56	8	2	3	87	0.77	0.51	0.43	1	4	3	87	5
57	8	2	2	92	0.70	0.50	0.45	2	1	92	3	3
58	8	2	4	90	0.75	0.54	0.46	2	1	4	3	90
SPECIFICATION =	9											
54	9	2	2	65	****	0.59	0.59	2	9	65	11	13
SPECIFICATION =	10											
50	10	2	4	66	0.72	0.46	0.40	2	16	2	15	66
51	10	2	3	77	0.67	0.43	0.37	2	6	9	77	5
53	10	2	1	84	0.66	0.56	0.52	1	84	2	11	2
SPECIFICATION =	11											
46	11	2	3	86	0.62	0.51	0.49	1	4	5	86	4
47	11	2	3	68	0.76	0.52	0.49	1	12	14	68	4
52	11	2	2	74	0.73	0.53	0.47	1	5	74	18	1
SPECIFICATION =	12											
48	12	2	4	82	0.86	0.60	0.60	1	9	3	4	82
49	12	2	2	89	0.79	0.60	0.56	1	3	89	4	2
SPECIFICATION =	13											
13	13	3	3	79	****	0.51	0.39	0	5	13	79	3
SPECIFICATION =	14											
14	14	3	1	91	0.56	0.47	0.36	0	91	3	3	2
15	14	3	3	72	0.75	0.54	0.41	0	1	3	72	23
16	14	3	1	87	0.62	0.48	0.39	1	87	5	2	5

TABLE 5.3 (continued)

NATIONAL EVALUATION SYSTEMS, INC.
CRITERION-REFERENCED TEST ITEM RELIABILITY REPORT

ITEM STATISTICS BY SPECIFICATION

MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79
MATHEMATICS - FORM 1

QUESTION POSITION	SPEC	DOMAIN	COR ANS	PCT COR	SPEC REL	DOMS REL	TEST REL	DISTRIBUTION OF RESPONSES(%) NR	1	2	3	4
SPECIFICATION =	15											
18	15	3	3	85	0.62	0.56	0.44	1	1	7	85	5
19	15	3	2	43	0.74	0.48	0.28	1	6	43	32	17
20	15	3	2	88	0.58	0.53	0.47	1	2	88	4	5
SPECIFICATION =	16											
21	16	3	1	93	****	0.42	0.36	0	93	3	2	1
SPECIFICATION =	17											
4	17	4	4	97	****	0.28	0.28	0	1	1	1	97
SPECIFICATION =	18											
5	18	4	4	86	****	0.39	0.32	0	2	10	1	86
SPECIFICATION =	19											
6	19	4	1	70	****	0.37	0.28	1	70	2	13	14
SPECIFICATION =	20											
7	20	4	4	82	****	0.53	0.49	1	3	4	10	82
SPECIFICATION =	21											
17	21	4	2	83	****	0.50	0.45	1	7	83	7	3
SPECIFICATION =	22											
9	22	4	4	82	****	0.41	0.34	0	2	7	8	82

TABLE 5.3 (continued)

NATIONAL EVALUATION SYSTEMS, INC.
CRITERION-REFERENCED TEST ITEM RELIABILITY REPORT

ITEM STATISTICS BY SPECIFICATION

MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79
MATHEMATICS - FORM 1

QUESTION POSITION	SPEC DOMAIN	COR ANS	PCT COR	SPEC REL	DOMS REL	TEST REL	DISTRIBUTION OF RESPONSES(%) NR	1	2	3	4
SPECIFICATION = 23											
10	23 4	2	74	0.75	0.48	0.42	0	10	74	14	2
11	23 4	1	68	0.79	0.46	0.43	3	68	12	13	5
SPECIFICATION = 24											
12	24 4	1	69	****	0.52	0.45	0	69	1	28	2
SPECIFICATION = 25											
8	25 4	1	97	****	0.24	0.26	0	97	2	0	0
SPECIFICATION = 26											
25	26 4	1	92	0.73	0.49	0.46	0	92	2	5	0
26	26 4	4	75	0.90	0.62	0.55	1	6	7	11	75
SPECIFICATION = 27											
32	27 4	2	98	****	0.24	0.29	0	1	98	1	0
SPECIFICATION = 28											
31	28 4	4	64	****	0.58	0.50	1	5	13	17	64
SPECIFICATION = 29											
30	29 4	2	92	****	0.41	0.36	1	2	92	4	1
SPECIFICATION = 30											
23	30 4	2	60	****	0.49	0.40	1	13	60	1	25

TABLE 5.3 (continued)

NATIONAL EVALUATION SYSTEMS, INC.
CRITERION-REFERENCED TEST ITEM RELIABILITY REPORT

ITEM STATISTICS BY SPECIFICATION

MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79
MATHEMATICS - FORM 1

QUESTION POSITION	SPEC	DOMAIN	COR ANS	PCT COR	SPEC REL	DOMS REL	TEST REL	DISTRIBUTION OF RESPONSES(%) NR	1	2	3	4
SPECIFICATION = 31												
24	31	4	3	68	*****	0.58	0.52	1	15	6	68	10
SPECIFICATION = 32												
22	32	4	1	79	*****	0.54	0.49	1	79	3	7	10
SPECIFICATION = 33												
42	33	5	2	91	0.89	0.66	0.35	1	4	91	3	1
43	33	5	4	95	0.81	0.65	0.41	1	1	2	2	95
SPECIFICATION = 34												
55	34	5	3	79	*****	0.69	0.47	1	2	3	79	14
SPECIFICATION = 35												
59	35	5	1	95	*****	0.59	0.45	2	95	2	1	1
SPECIFICATION = 36												
38	36	5	4	98	*****	0.46	0.35	1	0	0	1	98
SPECIFICATION = 37												
45	37	6	2	95	*****	0.79	0.45	1	2	95	1	1
SPECIFICATION = 38												
44	38	6	4	93	*****	0.85	0.46	1	1	1	3	93

The point-biserial correlations included in these reports are indices of discrimination which relate performance on a single item to performance on the group of other items matched to the same objective, the same area, or the total test. High point-biserial correlations result when an item tends to measure the same skills as the remaining items in the comparison group. In such cases those students who answer the item correctly tend to be the same students who answer the remaining items correctly. In general, objective and area reliabilities below 0.40 may be considered low, and test reliabilities below 0.20 may be considered low. However, when the percentage of students scoring correctly on an item is higher than 90%, as it often is in a basic skills test, low test and objective reliabilities may have little meaning. (Reliabilities cannot be calculated at all on items with 100% of the students scoring correctly.)

Individual item information is also summarized in Table 5.4. That table contains reduced reproductions of test items as they appeared on the test. Also included for each item are the question position, the correct response (indicated by an asterisk), and the percentage of students choosing each response.

Also shown in Table 5.4 are achievement scores for objectives and areas. These are merely the average percentage correct for all of the items matched to an objective or area. Note that, in most areas, only one item is matched to an objective, however. In those cases the item and objective score are identical. In cases where more than one item is matched to an objective, the objective score may be interpreted as the average percentage of items answered correctly for that objective. Similarly, area scores indicate the average percentage of items matched to that area which were answered correctly.

Interpretive comments of the Mathematics Task Force concerning the results of the Mathematics test may be found in the Summary Report.

TABLE 5.4

Performance of Massachusetts Students on Mathematics Items, Objectives, and Areas

	Number of Items	Average Percentage Correct
AREA A: NUMBERS AND NUMERATION CONCEPTS	6	90%
OBJECTIVE 1: Recognize number symbols, whole numbers, fractions, decimals, and powers of 10	3	95%

1. The school enrollment of two thousand five hundred twenty students can be written as:

1% A. 25,020.
2% B. 20,520.
*96% C. 2,520.
0% D. 2,502.

2. Carla wrote "three hundred forty and $\frac{20}{100}$" on a check. How much was the check for?

0% A. $304.02
0% B. $304.30
3% C. $340.02
*97% D. $340.20

3. The new school will cost approximately $2\frac{1}{2}$ million dollars. This cost can be written as:

0% A. $25,000.
2% B. $250,000.
*91% C. $2,500,000.
6% D. $25,000,000.

	Number of Items	Average Percentage Correct
OBJECTIVE 2: Identify odd and even numbers	1	96%

27. Houses with even-numbered addresses are on the same side of Hill Road. In which of the following groups are all the houses on the same side?

*96% A. 2 Hill Rd., 18 Hill Rd., 20 Hill Rd.
1% B. 12 Hill Rd., 26 Hill Rd., 37 Hill Rd.
1% C. 3 Hill Rd., 8 Hill Rd., 17 Hill Rd.
1% D. 32 Hill Rd., 66 Hill Rd., 70 Hill Rd.

OBJECTIVE 3: Put numbers in numerical order	1	80%

28. Which city's budget is greatest?

2% A. City A: $950 thousand
1% B. City B: $3.9 million
*80% C. City C: $2.1 billion
17% D. City D: $6.8 million

OBJECTIVE 4: Recognize equivalent fractions	1	81%

29. $\frac{48}{60}$ =

5% A. $\frac{2}{3}$
*81% B. $\frac{3}{4}$
5% C. $\frac{4}{5}$
8% D. $\frac{9}{10}$

TABLE 5.4 (continued)

	Number of Items	Average Percentage Correct
AREA B: ARITHMETIC COMPUTATION	20	84%
OBJECTIVE 5: Add, subtract, multiply, and divide whole numbers	*8*	*91%*

33. John had 135 newspapers to sell. If he sold 87, how many did he have left?

*96% A. 48
1% B. 52
2% C. 58
0% D. 222

34. Julia has 29 rolls of tape. Each roll is 120 feet long. How many feet of tape does she have?

1% A. 2380 ft
6% B. 2480 ft
*90% C. 3480 ft
2% D. 3670 ft

35.
669
757
+ 995

0% A. 2113
1% B. 2222
*95% C. 2421
3% D. 2431

36. The movie theater sold 102 tickets Monday, 87 Tuesday, 36 Wednesday, 43 Thursday, and 87 Friday. How many tickets did they sell?

5% A. 224
2% B. 304
3% C. 314
*90% D. 324

37.
173
x 54

2% A. 9372
*92% B. 9342
4% C. 6342
2% D. 1557

38. 9282 ÷ 26 =

*85% A. 357
5% B. 360
5% C. 367
3% D. 370

TABLE 5.4 (continued)

	Number of Items	Average Percentage Correct
AREA B: ARITHMETIC COMPUTATION (cont'd)		
OBJECTIVE 6: Add and subtract mixed numbers	1	82%

40. Betty Ann spent $2\frac{1}{2}$ hours studying math on Tuesday night and $3\frac{1}{4}$ hours studying math on Wednesday night. What is the total number of hours she spent studying math on these two nights?

3% A. $5\frac{1}{3}$ hr
2% B. $5\frac{1}{2}$ hr
*92% C. $5\frac{3}{4}$ hr
3% D. 6 hr

OBJECTIVE 7: Multiply whole numbers or money by fractions — 1 — 82%

41. Ms. Tobin bought a pair of jeans on layaway. The jeans cost $26.10. If she paid a deposit of one-third, how much was the deposit?

4% A. $3.00
10% B. $7.83
*82% C. $8.70
2% D. $13.10

	Number of Items	Average Percentage Correct
OBJECTIVE 8: Add, subtract, multiply, and divide decimal numbers like money	3	90%

MT. 06.03
PR. 00.39
GR. 01.19
GR. 00.39
MT. 05.19
GR. 00.54

57. How much change should Les receive from a $20 bill if his purchases totaled $14.37?

1% A. $5.37
*92% B. $5.63
3% C. $6.37
3% D. $6.73

58. According to the cash register tape shown above, how much did Jeff spend at the supermarket?

4% A. $12.72
3% B. $12.82
*87% C. $13.72
5% D. $13.82

58.
2.97
x 41

1% A. 2.56
4% B. 12.17
3% C. 43.97
*90% D. 121.77

TABLE 5.4 (continued)

	Number of Items	Average Percentage Correct
AREA B: ARITHMETIC COMPUTATION (cont'd)		
OBJECTIVE 9: Change a fraction to a decimal	*1*	*65%*

84. $\frac{4}{5}$ =

9%	A.	.4
*65%	B.	.8
11%	C.	.9
13%	D.	1.25

OBJECTIVE 10: Find a percent of a number in situations such as simple interest, discounts, commissions, and taxes	*3*	*76%*

80. This pair of boots normally costs $74.50. What is the sale price for the boots?

16%	A.	$14.90
2%	B.	$18.63
15%	C.	$55.87
*66%	D.	$59.60

81. Joe took out a bank loan for $800. He paid interest at the rate of 6% a year. If he paid the entire loan in one year, how much did he pay in interest?

6%	A.	$3.00
9%	B.	$8.33
*77%	C.	$30.00
5%	D.	$83.33

83. What is the saving if the coat is bought on sale?

*84%	A.	$8.00
2%	B.	$9.00
11%	C.	$10.00
2%	D.	$12.00

TABLE 5.4 (continued)

	Number of Items	Average Percentage Correct
AREA B: ARITHMETIC COMPUTATION (cont'd)		
OBJECTIVE 11: Use ratio and proportion (mixtures, recipes, scale drawings)	3	76%

46. If Ben can type 6 pages in 40 minutes, how many pages can he type in 160 minutes?

4% A. 32 pages
5% B. 28 pages
*86% C. 24 pages
4% D. 18 pages

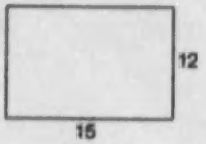
47. A recipe for 12 servings of clam chowder calls for 6 cups of milk. How many cups of milk should be used to make 9 servings of the chowder?

12% A. $3\frac{1}{2}$ cups
14% B. 4 cups
*68% C. $4\frac{1}{2}$ cups
4% D. 5 cups

52. At 96¢ a dozen, how much do 6 oranges cost?

5% A. $.48
*74% B. $.64
18% C. $.72
1% D. $1.44

	Number of Items	Average Percentage Correct
OBJECTIVE 12: Use simple formulas	3	86%



48. What is the perimeter (P) of this rectangle if P = 2L + 2W?

9% A. 27
3% B. 31
4% C. 44
*82% D. 54

49. Sandra wants to find out how many miles her car traveled per gallon. If she traveled 204 miles and used 12 gallons of gas, how many miles did she drive per gallon?

$$\text{miles per gallon} = \frac{\text{number of miles}}{\text{number of gallons}}$$

3% A. 12 mpg
*89% B. 17 mpg
4% C. 20 mpg
2% D. 23 mpg

TABLE 5.4 (continued)

	Number of Items	Average Percentage Correct
AREA C: ESTIMATION AND APPROXIMATION	8	80%
OBJECTIVE 13: Round off numbers to a specified place	*1*	*79%*

13. Round this number to the nearest hundredth: 2.4518.

5% A. 2.52
13% B. 2.46
*79% C. 2.45
3% D. 2.40

OBJECTIVE 14: Approximate the answer to a computation problem (including discounts and percentages)	*3*	*83%*

14. 7780 x 212 is closest to:

*91% A. 8000 x 200
3% B. 8000 x 300
3% C. 7000 x 200
2% D. 7000 x 300

15. If Maria can read 20 pages an hour, about how many hours will it take her to read a 178-page book?

1% A. 3800 hours
3% B. 10 hours
*72% C. 9 hours
23% D. 8 hours

	Number of Items	Average Percentage Correct

16. Elaine is a buyer for a department store. Based on the number of calculators sold in January, estimate the number of calculators she should buy to stock the shelves for a month.

Number of Calculators Sold
Jan. 3- 8 310
Jan. 10-15 260
Jan. 17-22 175
Jan. 24-29 225

*87% A. 1000
5% B. 750
2% C. 500
5% D. 240

OBJECTIVE 15: Estimate length, weight/mass, capacity, time, temperature, area, and volume	*3*	*72%*

18. A floor is 14.3 meters long and 12.7 meters wide. Of the following, which is the best approximation to the number of square meters in the floor?

1% A. 15 x 14
7% B. 15 x 13
*85% C. 14 x 13
5% D. 14 x 12

TABLE 5.4 (continued)

	Number of Items	Average Percentage Correct
AREA C: ESTIMATION AND APPROXIMATION (cont'd)		
OBJECTIVE 15: Estimate length, weight/mass, capacity, time, temperature, area, and volume (cont'd)		

19. If a person is wearing a bathing suit, the temperature in degrees Celsius is most likely to be:

6% A. 10°C.
*43% B. 30°C.
32% C. 60°C.
17% D. 80°C.

20. The temperature rose 2.2 degrees every hour from 8:06 A.M. to 11:11 A.M. Estimate the total number of degrees the temperature rose during this time.

2% A. 4°
*88% B. 11°
4% C. 17°
5% D. 22°

OBJECTIVE 16: Estimate with money	1	93%

21. Randy had his car repaired at the gas station. It cost $34.99 for a new battery, $17.50 towing charge, and $8.50 labor charges. Which is the best way to estimate how much Randy should bring to pay the bill?

*93% A. 35 + 18 + 7
3% B. 40 + 20 + 10
2% C. 34 + 17 + 8
1% D. 30 + 15 + 5

	Number of Items	Average Percentage Correct
AREA D: MEASUREMENT AND GEOMETRY	18	80%
OBJECTIVE 17: Choose an appropriate unit of measurement in the U.S. customary system (for example: feet, pounds, and gallons)	1	87%

4. Which of the following is most likely to be one inch long?

1% A. a necktie
1% B. a sofa
1% C. a telephone
*97% D. a paper clip

OBJECTIVE 18: Choose an appropriate unit of measurement in the metric system (for example: meters, kilograms, and liters)	1	86%

5. The weight of a coin would be most appropriately given in:

2% A. liters.
10% B. kilograms.
1% C. metric tons.
*86% D. grams.

TABLE 5.4 (continued)

	Number of Items	Average Percentage Correct
AREA D: MEASUREMENT AND GEOMETRY (cont'd)		
OBJECTIVE 19: Choose an appropriate measurement instrument involving both U.S. customary and metric units	1	70%

6. To measure the length of an Olympic swimming pool, which of the following would be the most efficient to use?

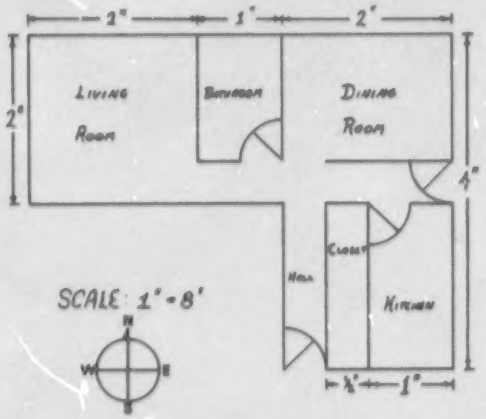
*70% A. 10-meter tape
2% B. 30-centimeter ruler
13% C. meter stick
14% D. caliper

OBJECTIVE 20: Convert common measurements within the same system	1	83%

7. Helen needs exactly 5 feet of material to make a tablecloth. How many yards of material must she buy?

3% A. $\frac{1}{2}$ yd
4% B. $\frac{3}{4}$ yd
10% C. $1\frac{1}{4}$ yd
*83% D. $1\frac{2}{3}$ yd

	Number of Items	Average Percentage Correct
OBJECTIVE 21: Read a scale drawing	1	83%

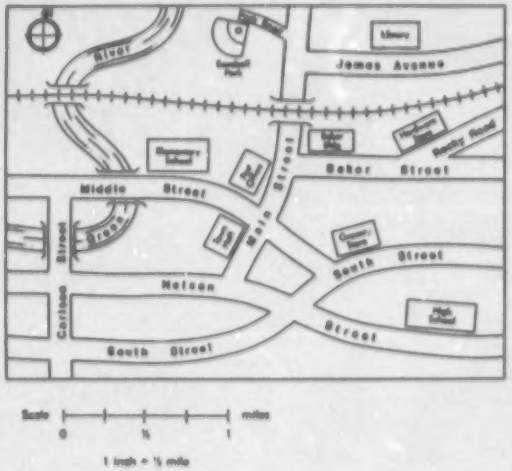


17. What is the actual length of the north wall of this house?

7% A. 80 ft
*83% B. 40 ft
7% C. 32 ft
3% D. 16 ft

TABLE 5.4 (continued)

	Number of Items	Average Percentage Correct
AREA D: MEASUREMENT AND GEOMETRY (cont'd)		
OBJECTIVE 22: Use a map to compute highway distances	*1*	*82%*



9. What is the approximate distance from the corner of Middle and Carlson Streets to the Grocery Store?

2% A. $\frac{1}{2}$ mile
7% B. $\frac{3}{4}$ mile
8% C. 1 mile
*82% D. $1\frac{1}{2}$ miles

	Number of Items	Average Percentage Correct
OBJECTIVE 23: Relate total cost and cost per unit	*2*	*71%*

10. A store is selling 5 cans of peas for $1.00. If the regular price is 23 cents per can, how much is saved by buying 2 cans at the sale price?

10% A. 3¢
*74% B. 6¢
14% C. 15¢
2% D. 17¢

11. Electricity costs $0.0061 per kilowatt hour. What is the cost of 1530 kilowatt hours?

*68% A. $7.80
12% B. $7.70
13% C. $7.65
5% D. $7.60

OBJECTIVE 24: Compute by using temperature	*1*	*69%*

12. The temperature in Bangor is 9 degrees below zero. In Philadelphia, the temperature is 42 degrees. How many degrees difference is there between these two temperatures?

*69% A. 51
1% B. 41
28% C. 33
3% D. 31

	Number of Items	Average Percentage Correct
AREA D: MEASUREMENT AND GEOMETRY (cont'd)		
OBJECTIVE 25: Compute by using time	1	97%

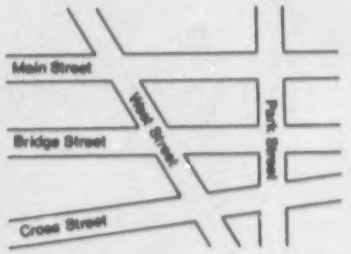
TIME CARD		
Name: Mark Harper		
Week ending: Dec. 16		
Day	In	Out
MON	8:00 A.M.	2:00 P.M.
TUE	7:30 A.M.	12:00 noon
WED	9:00 A.M.	1:00 P.M.
THU	7:00 A.M.	11:30 A.M.
FRI	8:30 A.M.	2:30 P.M.

8. The time card above shows when Mark Harper punched in and punched out at work. For how many hours was Mark at work on Wednesday?

*97% A. 4 hours
2% B. 5 hours
0% C. 8 hours
0% D. 9 hours

	Number of Items	Average Percentage Correct
OBJECTIVE 26: Identify right angles and parallel, perpendicular, and intersecting lines like those in a street map	2	84%

Use this map to answer the next two questions.



25. On the map above, which streets appear to be parallel?

*92% A. Main and Bridge
2% B. Main and Park
5% C. West and Park
0% D. Bridge and Cross

26. Which two streets form right angles at their intersection?

6% A. Main and West
7% B. Bridge and West
11% C. Cross and Park
*75% D. Bridge and Park

TABLE 5.4 (continued)

AREA D: MEASUREMENT AND GEOMETRY (cont'd)	Number of Items	Average Percentage Correct
OBJECTIVE 27: Recognize that an object has the shape of a square, rectangle, triangle, or parallelogram	1	98%

32. What is this figure?

1% A. triangle
*98% B. square
1% C. pentagon
0% D. hexagon

OBJECTIVE 28: Identify the radius, diameter, and center of a circle	1	64%

31. In the figure above, the line shown through the center of the circle is called a:

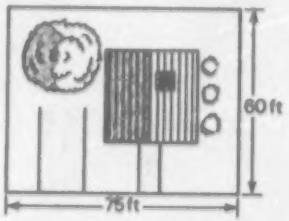
5% A. circumference.
13% B. diagonal.
17% C. radius.
*64% D. diameter.

	Number of Items	Average Percentage Correct
OBJECTIVE 29: Recognize that an object has the shape of a cube, cylinder, or sphere	1	92%

30. The name for this three-dimensional figure is:

2% A. cone.
*92% B. cylinder.
4% C. sphere.
1% D. hemisphere.

OBJECTIVE 30: Find the perimeter of a triangle, square, and rectangle	1	60%



23. About how many feet of fencing are needed to put a fence around a yard 75 feet long and 60 feet wide?

13% A. 135 ft
*60% B. 270 ft
1% C. 2250 ft
25% D. 4500 ft

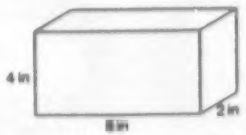
TABLE 5.4 (continued)

	Number of Items	Average Percentage Correct
AREA D: MEASUREMENT AND GEOMETRY (cont'd)		
OBJECTIVE 31: Find the area of a triangle, square, and rectangle	*1*	*68%*

24. A painter is painting a wall that is 4 meters long and 2.5 meters high. What is the total area in square meters that must be painted?

15% A. 6.5 sq m
6% B. 8 sq m
*68% C. 10 sq m
10% D. 100 sq m

OBJECTIVE 32: Find the volume of a triangle, square, and rectangle	*1*	*70%*



22. What is the volume, in cubic inches, of the box shown in the figure above?

*79% A. 64
3% B. 40
7% C. 32
10% D. 14

	Number of Items	Average Percentage Correct
AREA E: GRAPHS AND TABLES	5	92%
OBJECTIVE 33: Read a table	*2*	*93%*

Use this sales tax chart to answer the next two questions.

5% SALES TAX CHART

Amount of Sale	Sales Tax
$12.10 - 12.29	.61
$12.30 - 12.49	.62
$12.50 - 12.69	.63
$12.70 - 12.89	.64
$12.90 - 13.09	.65
$13.10 - 13.29	.66
$13.30 - 13.49	.67
$13.50 - 13.69	.68
$13.70 - 13.89	.69
$13.90 - 14.09	.70

42. Dinah bought a record album for $13.59. How much sales tax (5%) must she pay?

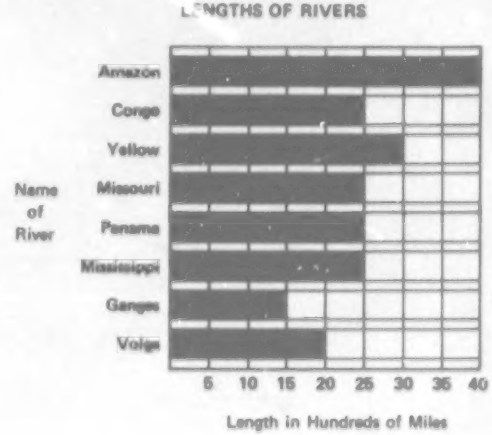
4% A. $.67
*91% B. $.68
3% C. $.69
1% D. $.70

43. Sol bought two cartridges of film for his camera for $12.74. How much sales tax (5%) must he pay?

1% A. $.67
2% B. $.66
2% C. $.65
*95% D. $.64

	Number of Items	Average Percentage Correct
AREA E: GRAPHS AND TABLES (cont'd)		
OBJECTIVE 34: Interpret a bar graph	*1*	*79%*

Use this bar graph to answer the next question.

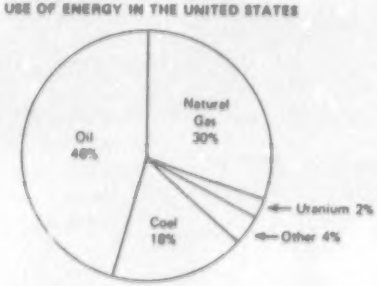


88. What is the difference in length between the Amazon and the Mississippi?

2% A. 4000 miles
3% B. 2500 miles
*79% C. 1500 miles
14% D. 150 miles

	Number of Items	Average Percentage Correct
OBJECTIVE 35: Interpret a circle graph	*1*	*95%*

Use this graph to answer the next question.



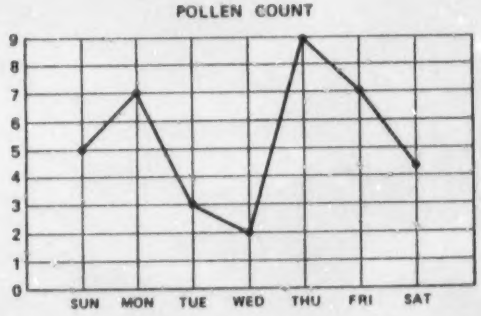
89. According to this graph, what source of energy is used the LEAST in the United States?

*95% A. uranium
2% B. coal
1% C. natural gas
1% D. oil

TABLE 5.4 (continued)

	Number of Items	Average Percentage Correct
AREA E: GRAPHS AND TABLES (cont'd)		
OBJECTIVE 36: Interpret a line graph	*1*	*98%*

Use this graph to answer the next question.



38. On what day was the pollen count highest?

0% A. Sunday
0% B Monday
1% C Wednesday
*98% D Thursday

	Number of Items	Average Percentage Correct
AREA F: PREDICTION OF EVENTS AND STATISTICS	2	94%
OBJECTIVE 37: Understand probabilities like those used in weather forecasting or lotteries (the chance something will or will not happen)	*1*	*95%*

45. If the probability of rain is 60%, what is the chance that it will NOT rain?

2% A. 30%
*95% B. 40%
1% C. 60%
1% D. 120%

OBJECTIVE 38: Find and use averages (mean and median) for a group of numbers	*1*	*93%*

44. Sherry's expenses have averaged $180 a month. Based on this information, what is the best estimate of her expenses for a year?

1% A. $180
1% B. $192
3% C. $1800
*93% D. $2160

CHAPTER 6

ACHIEVEMENT RESULTS: READING

Introduction

The performance of Massachusetts twelfth-graders in Reading is presented in a form similar to that provided for Mathematics in the previous chapter. Each of 55 multiple-choice items on the test was matched to one of the 14 Reading objectives. The areas and objectives, as specified by the Policy on Basic Skills Regulations, are as follows.

A. Basic Word Meaning

1. Identify the meaning of commonly used words within a sentence that does not provide clues to the meaning of the word

2. Identify the meaning of a word within a sentence that provides clues to the meaning of the word

B. Literal Comprehension

3. Identify the meaning of a written phrase, clause, sentence, or paragraph

4. Demonstrate the ability to follow directions

5. Identify the main idea, supporting details, and conclusion of a paragraph

6. Recognize the sequence of events or ideas in a written passage

7. Identify information on a chart, map, or graph

C. Interpretive Comprehension

8. Draw conclusions implied in a paragraph or passage

9. Identify cause and effect relationships implied in a paragraph or passage

10. Predict an outcome implied in a paragraph or passage

D. Evaluative Comprehension

11. Identify a statement as fact or opinion

12. Identify the writer's purpose in a paragraph or passage written to inform or persuade

E. Locating Information

13. Use the parts of a book

14. Locate information in a variety of sources

Achievement on the Total Test

A decile distribution (Table 6.1) provides information about total test performance of Massachusetts students on the Reading test. The table shows the percentage of students scoring within each decile range. For example, 46.4% of the students received a score between 91% and 100% on the test. Students answered correctly an average of 86.3% of all items on the Reading test.

Achievement on Areas

As noted above, each of the 55 test items was matched to a particular objective, and each objective was grouped with other objectives to define a broader area. It is therefore possible to examine not only results for individual *items*, but also results for all items matched to a particular *objective* and for all items matched to a particular *area*.

Table 6.2 shows the average percentage of matching test items answered correctly for each of the five areas. Student performance was highest for Area A, Basic Word Meaning (8 items), and Area B, Literal Comprehension (23 items), for which, on the average, 91% of the items were answered correctly. Student achievement was lowest on Area D, Evaluative Comprehension (7 items), for which students answered an average of 70% of the items correctly.

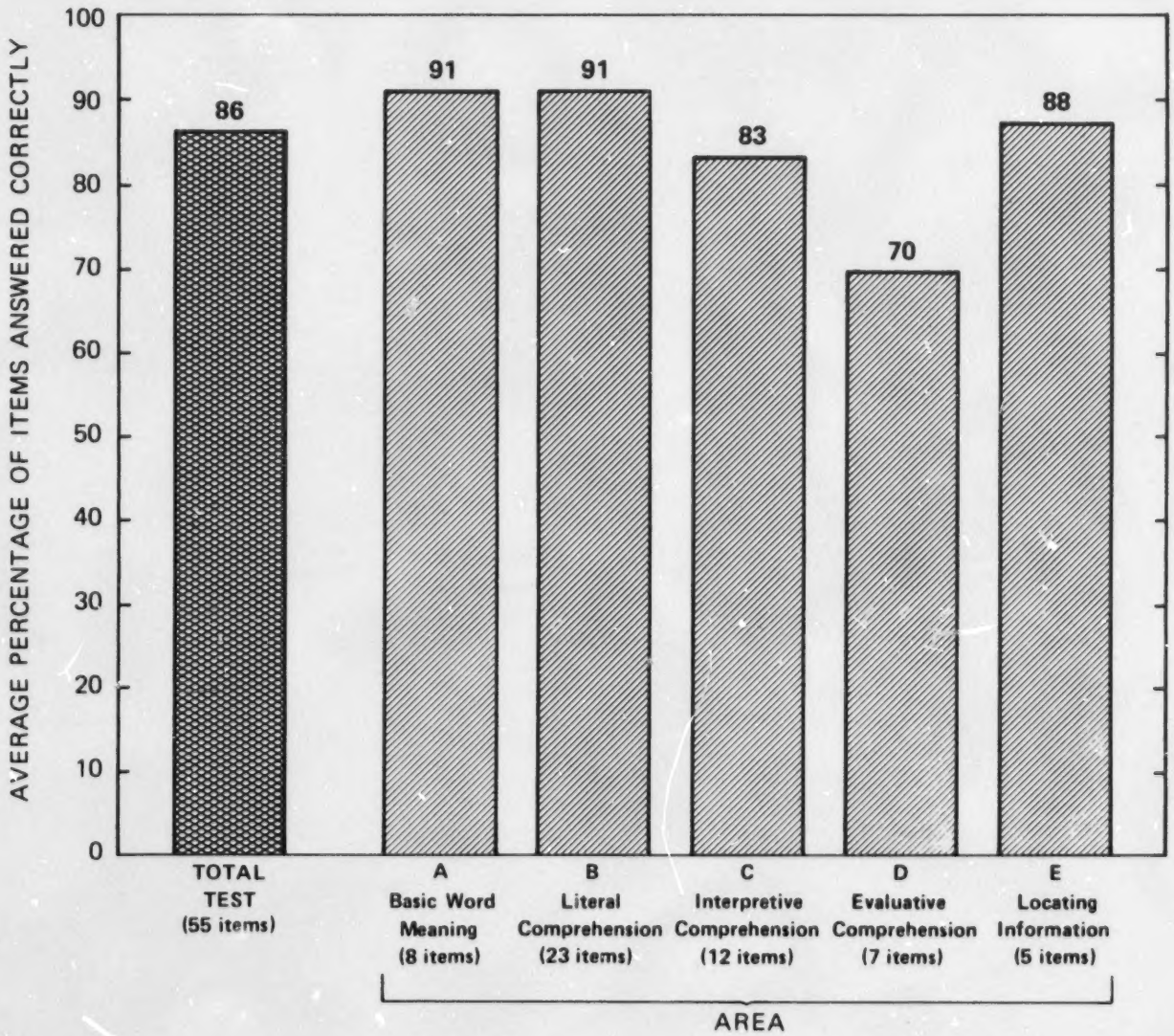
TABLE 6.1

Decile Distribution of Total Reading Test Score

Decile Range of Correct Responses	Percentage of Students with Scores in Each Decile Range
0- 10%	0.3
11- 20%	0.1
21- 30%	0.2
31- 40%	0.4
41- 50%	0.6
51- 60%	1.9
61- 70%	4.2
71- 80%	13.5
81- 90%	32.4
91-100%	46.4

FIGURE 6.2

Achievement of Massachusetts Students on Total Test and Each Area:
Reading



NOTE: Total Test achievement is the average percentage of students answering correctly each of the 55 test items. It is equal to the *weighted average* of the achievement scores for each of the five Areas (i.e., each Area score must be weighted by the number of items in the Area).

Achievement on Items

Information on individual items is shown in Table 6.3. These computer reports present the following information for each item:

- question position on the test;
- objective ("specification") number to which the item is matched;
- area ("domain") number to which the item is matched;
- the correct response (1 = A, 2 = B, 3 = C, 4 = D);
- percentage of students correctly answering the item;
- objective reliability (point-biserial correlation between the item and remaining items in the objective, if any--see definition on page 49);
- area reliability (point-biserial correlation between the item and remaining items in the area);
- test reliability (point-biserial correlation between the item and remaining items in the total test);
- the distribution of responses (the percentage of students choosing each response alternative or not responding).

The reader should note that in these computer reports the term "specification" refers to objectives and the term "domain" refers to areas.

Individual item information is also summarized in Table 6.4. That table contains reduced reproductions of test items as they appeared on the test. Also included for each item are the question position, the correct response (indicated by an asterisk), and the percentage of students choosing each response. Note especially that the reading passages keyed to particular questions have been grouped together at the end of Table 6.4.

Also shown in Table 6.4 are achievement scores for objectives and areas. These are merely the average percentage correct for all of the items matched to an objective or area. The objective score may be interpreted as the average percentage of items answered correctly for that objective. Similarly, area scores indicate the average percentage of items matched to that area which were answered correctly.

Interpretive comments of the Reading Technical Committee concerning the results of the Reading test can be found in the Summary Report.

TABLE 6.3

NATIONAL EVALUATION SYSTEMS, INC.
CRITERION-REFERENCED TEST ITEM RELIABILITY REPORT

ITEM STATISTICS BY SPECIFICATION

MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79
READING - FORM 1

QUESTION POSITION	SPEC	DOMAIN	COR ANS	PCT COR	SPEC REL	DOMS REL	TEST REL	DISTRIBUTION OF RESPONSES(%) NR	1	2	3	4
SPECIFICATION = 1												
1	1	1	1	70	0.79	0.57	0.26	1	70	14	9	7
2	1	1	4	93	0.57	0.51	0.39	0	2	4	0	93
3	1	1	2	97	0.49	0.47	0.40	0	0	97	1	1
4	1	1	3	98	0.42	0.42	0.37	1	0	0	98	1
SPECIFICATION = 2												
18	2	1	4	95	0.53	0.46	0.40	0	3	1	1	95
19	2	1	4	93	0.61	0.52	0.46	0	4	1	1	93
20	2	1	1	80	0.75	0.55	0.31	0	80	1	0	19
21	2	1	4	98	0.48	0.44	0.43	0	1	0	0	98
SPECIFICATION = 3												
13	3	2	3	94	0.65	0.48	0.47	0	1	3	94	1
23	3	2	3	96	0.62	0.42	0.39	0	0	3	96	1
38	3	2	1	95	0.68	0.48	0.44	1	95	3	1	1
41	3	2	3	96	0.63	0.51	0.47	1	1	1	96	1
SPECIFICATION = 4												
5	4	2	4	95	0.53	0.41	0.38	0	3	0	2	95
7	4	2	3	95	0.56	0.46	0.45	0	3	1	95	1
43	4	2	1	90	0.62	0.45	0.40	1	90	2	7	0
44	4	2	2	94	0.61	0.45	0.39	1	2	94	3	0
51	4	2	2	95	0.63	0.52	0.46	1	2	95	1	1
52	4	2	3	97	0.65	0.57	0.49	1	0	1	97	0
SPECIFICATION = 5												
8	5	2	1	69	0.50	0.30	0.22	0	69	2	4	24
31	5	2	2	81	0.53	0.42	0.39	1	9	81	7	2
40	5	2	1	85	0.49	0.40	0.36	1	85	3	0	11
48	5	2	4	86	0.61	0.59	0.56	1	3	7	3	86
53	5	2	1	84	0.59	0.51	0.45	1	84	9	4	2
54	5	2	3	89	0.57	0.55	0.50	1	1	5	89	2

TABLE 6.3 (continued)

NATIONAL EVALUATION SYSTEMS, INC.
CRITERION-REFERENCED TEST ITEM RELIABILITY REPORT

ITEM STATISTICS BY SPECIFICATION

MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79
READING - FORM 1

QUESTION POSITION	SPEC	DOMAIN	COR ANS	PCT COR	SPEC REL	DOMS REL	TEST REL	DISTRIBUTION OF RESPONSES(%) NR	1	2	3	4
SPECIFICATION = 6												
16	6	2	1	90	0.60	0.42	0.40	0	90	6	2	2
28	6	2	2	92	0.59	0.49	0.47	0	2	92	4	1
39	6	2	3	78	0.71	0.45	0.40	1	1	18	78	2
42	6	2	4	92	0.53	0.44	0.40	1	2	3	2	92
SPECIFICATION = 7												
34	7	2	2	99	0.79	0.45	0.41	0	0	99	0	0
35	7	2	4	98	0.84	0.45	0.39	0	1	1	0	98
36	7	2	2	99	0.81	0.47	0.42	0	0	99	0	0
SPECIFICATION = 8												
6	8	3	1	85	0.63	0.54	0.48	0	85	5	6	4
14	8	3	2	77	0.67	0.55	0.47	1	8	77	6	9
25	8	3	4	91	0.56	0.51	0.47	0	2	6	1	91
37	8	3	4	64	0.72	0.55	0.43	1	14	15	5	64
SPECIFICATION = 9												
11	9	3	1	93	0.57	0.47	0.45	0	93	2	1	3
24	9	3	1	80	0.68	0.43	0.32	0	80	11	8	1
49	9	3	2	94	0.59	0.47	0.50	1	1	94	2	1
55	9	3	2	92	0.63	0.49	0.52	1	3	92	3	1
SPECIFICATION = 10												
9	10	3	2	78	0.64	0.54	0.45	0	8	78	4	10
12	10	3	4	96	0.40	0.42	0.43	0	1	2	1	96
26	10	3	3	70	0.62	0.38	0.25	1	3	23	70	3
50	10	3	3	76	0.64	0.52	0.43	1	6	13	76	4

TABLE 6.3 (continued)

NATIONAL EVALUATION SYSTEMS, INC.
CRITERION-REFERENCED TEST ITEM RELIABILITY REPORT

ITEM STATISTICS BY SPECIFICATION

MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79
READING - FORM 1

QUESTION POSITION	SPEC DOMAIN		COR ANS	PCT COR	SPEC REL	DOMS REL	TEST REL	DISTRIBUTION OF RESPONSES(%) NR	1	2	3	4
SPECIFICATION =	11											
17	11	4	3	70	0.69	0.57	0.38	0	3	21	70	5
22	11	4	3	73	0.67	0.58	0.45	1	2	15	73	9
27	11	4	2	41	0.62	0.50	0.28	1	8	41	39	12
32	11	4	3	90	0.51	0.49	0.45	1	3	5	90	2
SPECIFICATION =	12											
10	12	4	4	97	0.34	0.32	0.45	0	1	1	0	97
15	12	4	4	65	0.69	0.41	0.22	0	1	28	6	65
33	12	4	1	56	0.71	0.48	0.24	0	56	1	19	23
SPECIFICATION =	13											
29	13	5	3	98	0.85	0.41	0.35	0	0	0	98	1
30	13	5	1	98	0.84	0.44	0.41	0	98	1	0	0
SPECIFICATION =	14											
45	14	5	1	97	0.41	0.47	0.46	1	97	1	1	0
46	14	5	1	81	0.65	0.62	0.36	1	81	2	14	2
47	14	5	3	63	0.76	0.71	0.30	1	18	12	63	7

TABLE 6.4

Performance of Massachusetts Students on Reading Items, Objectives, and Areas

	Number of Items	Average Percentage Correct
AREA A: BASIC WORD MEANING	8	91%
OBJECTIVE 1: Identify the meaning of commonly used words within a sentence that does not provide clues to the meaning of the word	*4*	*90%*

For Questions 1-4, choose the word that means most nearly the SAME as the underlined word.

1. The <u>effect</u> of her decision is clear.

*70% A. result
14% B. meaning
9% C. cause
7% D. intent

2. The salesperson showed me the <u>authentic</u> gold chain.

2% A. fake
4% B. unusual
0% C. ruined
*93% D. genuine

3. Carla discovered that her new toaster was <u>defective</u>.

0% A. too large
*97% B. faulty
1% C. loose
1% D. unfavorable

4. Michelle said that the road was <u>hazardous</u>.

0% A. prepared
0% B. windy
*98% C. dangerous
1% D. destroyed

	Number of Items	Average Percentage Correct
OBJECTIVE 2: Identify the meaning of a word within a sentence that provides clues to the meaning of the word	*4*	*92%*

For questions 18-21, choose the word that means most nearly the SAME as the underlined word as it is used in the sentence.

18. After we talk about this last point, we will <u>conclude</u> our discussion and take a vote.

3% A. predict
1% B. cancel
1% C. criticize
*95% D. finish

19. The child had been careless, but his neighbor <u>exaggerated</u> the seriousness of the innocent mistake.

4% A. understood
1% B. indicated
1% C. adjusted
*93% D. overstated

TABLE 6.4 (continued)

	Number of Items	Average Percentage Correct
AREA A: BASIC WORD MEANING (cont'd)		
OBJECTIVE 2: Identify the meaning of a word within a sentence that provides clues to the meaning of the word (cont'd)		

20. We had to postpone our trip to the city because of bad weather.

*80% A. delay
1% B. endure
0% C. schedule
19% D. cancel

21. Shelley would not give up on the project no matter how many obstacles got in her way.

1% A. goals
0% B. promises
0% C. lies
*98% D. difficulties

AREA B: LITERAL COMPREHENSION	23	91%
OBJECTIVE 3: Identify the meaning of a written phrase, clause, sentence, or paragraph	*4*	*95%*

*(See PASSAGE #6: CHILDREN'S LITERATURE)**

13. The new realism in children's literature refers to books that deal with:

1% A. happy families.
3% B. fantasy.
*94% C. common problems.
1% D. advanture.

---

* NOTE: Reading passages associated with more than one objective are presented at the end of this table. Passage references are provided above each item.

(See PASSAGE #5: LETTER TO THE EDITOR)

23. What does Linda mean when she says that female athletes at Lakewood High never get any decent coverage?

0% A. Female athletic events should be covered by female reporters only.
3% B. The articles on girls' sports are inaccurate.
*96% C. There isn't enough written about girls' athletic events.
1% D. No one ever attends the girls' volleyball games.

(See PASSAGE #7: KING TUT)

38. What does the underlined phrase went on display mean in this passage?

*95% A. were shown
3% B. took a tour
1% C. were hidden
1% D. came to the United States

(See PASSAGE #8: ARTIFICIAL RESPIRATION)

41. If a person has had a respiratory arrest, that person has:

1% A. learned first aid.
1% B. committed suicide.
*96% C. stopped breathing.
1% D. saved someone's life.

TABLE 6.4 (continued)

	Number of Items	Average Percentage Correct
AREA B: LITERAL COMPREHENSION (cont'd)		
OBJECTIVE 4: Demonstrate the ability to follow directions	*6*	*94%*

(See PASSAGE #1: MEDICINE LABEL)

5. According to the label, it is all right to use the ointment for more than 10 days if:

3% A. the wound is cleansed first.
0% B. the wound is serious.
2% C. there is redness or swelling.
*95% D. a doctor advises you to do so.

(See PASSAGE #1: MEDICINE LABEL)

7. According to the label, this ointment is intended for use on:

3% A. serious burns.
1% B. bumps.
*95% C. minor cuts.
1% D. bruises.

Read the directions below, then answer the two questions that follow.

You will be starting out on Main Street in Morgantown. Take a left on Portland Road, which will lead you to Route 67. Stay on Route 67 for about five miles until you see the exit marked "State Street, Downtown Watkins." Take that exit, and, when you get to the end of the ramp, bear right to the traffic light. Take a left at the traffic light onto Beekman Street, and go to number 104.

43. In what town is 104 Beekman Street?

*90% A. Watkins
2% B. Beekman
7% C. Morgantown
0% D. Portland

44. What is the first direction?

2% A. Go to Route 67.
*94% B. Take a left on Portland Road.
3% C. Take a left on Main Street.
0% D. Stay on Route 67 for five miles.

TABLE 6.4 (continued)

	Number of Items	Average Percentage Correct
AREA B: LITERAL COMPREHENSION (cont'd)		
OBJECTIVE 4: Demonstrate the ability to follow directions (cont'd)		

Read the directions from a can of bug spray and answer the questions that follow.

ABC BUG SPRAY

Kills – Spiders, roaches, ants, and most other crawling insects.

Directions: Spray surfaces over which insects may crawl: doorways, window ledges, cracks, etc. Hold can approximately 10 inches from surface. Do not use near uncovered foods or small children. Toxic.

51. Which of the following will probably NOT be killed by the spray?

2% A. ants
*95% B. flies
1% C. spiders
1% D. roaches

52. How far from the surface to be sprayed should you hold the can?

0% A. 2 inches
1% B. 6 inches
*97% C. 10 inches
0% D. 1 foot

	Number of Items	Average Percentage Correct
AREA B: LITERAL COMPREHENSION (cont'd)		
OBJECTIVE 5: Identify the main idea, supporting details, and conclusion of a paragraph	*6*	*83%*

(See PASSAGE #2: DREAMS)

8. The last paragraph is mainly about:

*69% A. rapid eye movement.
2% B. a graduate student at the University of Chicago.
4% C. the meanings of dreams.
24% D. the history of dream research.

(See PASSAGE #6: ATC TURTLE)

31. What is the main idea of this passage?

9% A. Everyone should test drive a Turtle.
*81% B. The Turtle is a car worth owning.
7% C. There are many options available on a Turtle.
2% D. The Turtle gets excellent gas mileage.

(See PASSAGE #8: ARTIFICIAL RESPIRATION)

40. This article is mainly about:

*85% A. artificial respiration.
3% B. the causes of respiratory arrest.
0% C. brain damage.
11% D. first aid techniques.

TABLE 6.4 (continued)

	Number of Items	Average Percentage Correct
AREA B: LITERAL COMPREHENSION (cont'd)		
OBJECTIVE 5: Identify the main idea, supporting details, and conclusion of a paragraph (cont'd)		

(See PASSAGE #9: ENVIRONMENTAL RELATIONSHIPS)

48. What is the main idea of this passage?

3% A. Insects eat up all the farmer's crops.
7% B. No crops can be grown without enough sunlight and water.
3% C. Birds eat up most of the farmer's crops.
*86% D. All living things are affected by other living things.

(See PASSAGE #10: HEALTH HOTLINE)

53. The second paragraph is mostly about:

*84% A. why the Health Hotline should be used.
9% B. how to cope with serious illness.
4% C. what the doctors think about the Hotline.
2% D. how to order a tape by number.

(See PASSAGE #10: HEALTH HOTLINE)

54. Which of the following statements supports the main idea of this passage?

1% A. Bloomsburg is a small town in northeastern Minnesota.
5% B. The number 468-5463 spells "Hotline."
*89% C. People can use the tapes to acquire health information.
2% D. Each tape runs from three to five minutes.

	Number of Items	Average Percentage Correct
OBJECTIVE 6: Recognize the sequence of events or ideas in a written passage	4	88%

(See PASSAGE #4: CHILDREN'S LITERATURE)

18. According to this passage, the earliest types of popular children's literature were:

*90% A. folk tales and fables.
6% B. fantasy stories.
2% C. picture books and novels.
2% D. adventure stories.

(See PASSAGE #5: LETTER TO THE EDITOR)

28. Kathy Niebling was interviewed after:

2% A. Linda's letter was printed.
*92% B. she attended the Nationals.
4% C. Linda wrote the letter.
1% D. she graduated from high school.

(See PASSAGE #7: KING TUT)

39. According to this passage, what happened to the treasures first?

1% A. They were returned to Tutankhamen's tomb.
18% B. They were stolen by robbers.
*78% C. They were buried with King Tutankhamen.
2% D. They were found in Egypt.

(See PASSAGE #8: ARTIFICIAL RESPIRATION)

42. When performing artificial respiration, which of the following steps should be taken first?

2% A. Create a tight seal over the victim's mouth.
3% B. Allow air to escape from a victim's lungs.
2% C. Blow air into the victim's mouth.
*92% D. Place one hand behind the victim's neck.

TABLE 6.4 (continued)

	Number of Items	Average Percentage Correct
AREA B: LITERAL COMPREHENSION (cont'd)		
OBJECTIVE 7: Identify information on a chart, map, or graph	*3*	*98%*

Use the chart below to answer the three questions that follow.

INVENTORS AND THEIR INVENTIONS			
Inventor	Invention	Nationality	Year
Henry Blair	Cotton Planter	American	1836
Guglielmo Marconi	Wireless Telegraph	Italian	1896
Alfred Nobel	Dynamite	Swedish	1866
Elisha Otis	Elevator	American	1857
Wilhelm Roentgen	X-Ray	German	1901
William Sturgeon	Electromagnet	English	1824

34. Who invented the wireless telegraph?

0% A. Planter
*99% B. Marconi
0% C. Blair
0% D. Nobel

36. When did Otis invent the elevator?

0% A. 1836
*99% B. 1857
0% C. 1866
0% D. 1901

35. Which of the following was invented by William Sturgeon?

1% A. X-Ray
1% B. English
0% C. Dynamite
*98% D. Electromagnet

	Number of Items	Average Percentage Correct
AREA C: INTERPRETIVE COMPREHENSION	12	83%
OBJECTIVE 8: Draw conclusions implied in a paragraph or passage	*4*	*79%*

(See PASSAGE #1: MEDICINE LABEL)

6. Which is a valid conclusion based on the information provided on this label?

*85% A. The ointment is not intended for use on serious wounds.
½% B. Physicians recommend the use of this ointment.
6% C. The ointment will prevent infection from serious burns.
4% D. The ointment must be prescribed by a physician.

(See PASSAGE #4: CHILDREN'S LITERATURE)

14. Which is a valid conclusion based upon the information in the passage?

8% A. Young people don't want to read about situations involving death or divorce.
*77% B. Writers used to feel that young people should be protected from unpleasant facts.
6% C. Children read more adventure books now than they did years ago.
9% D. People did not have as many problems in the past as they do today.

TABLE 6.4 (continued)

	Number of Items	Average Percentage Correct
AREA C: INTERPRETIVE COMPREHENSION (cont'd)		
OBJECTIVE 8: Draw conclusions implied in a paragraph or passage (cont'd)		

(See PASSAGE #5: LETTER TO THE EDITOR)

25. Which is a valid conclusion based on the information in this passage?

- 2% A. Girls' sports at Lakewood High cannot survive without newspaper coverage.
- 6% B. Boys' sports will always be more popular than girls' sports.
- 1% C. Kathy Niebling was only interested in her appearance when she went to the Nationals.
- *91% D. Female athletes at Lakewood High are determined to achieve recognition.

(See PASSAGE #7: KING TUT)

37. What must have happened between the time Tutankhamen was buried and the year 1976?

- 14% A. Robbers broke into the tomb again and stole everything inside it.
- 15% B. The Egyptian government covered the entrance to the tomb so well that it was impossible to find.
- 5% C. The American government discovered Tutankhamen's tomb and claimed everything inside it.
- *64% D. Someone discovered the tomb and gave the contents to the Egyptian government.

OBJECTIVE 9: Identify cause and effect relationships implied in a paragraph or passage	*4*	*90%*

(See PASSAGE #3: AMERICA'S BRIDGES)

11. What is the most likely cause for the bad condition of the bridges?

- *93% A. Bridges are not regularly inspected.
- 2% B. The concrete is not strong enough.
- 1% C. Bridges are considered symbols of strength.
- 3% D. Many bridges are too narrow.

(See PASSAGE #5: LETTER TO THE EDITOR)

24. What is the most likely reason for the school paper's failure to give much coverage to girls' sports?

- *80% A. The staff of the newspaper doesn't take female athletics seriously.
- 11% B. There is not enough space on the sports page to cover all of the school's athletic events.
- 8% C. Male students are involved in more types of sports than female students are.
- 1% D. The school has not developed good female athletes and good teams.

(See PASSAGE #9: ENVIRONMENTAL RELATIONSHIPS)

49. According to the passage, birds are helpful to a farmer because they:

- 1% A. feed on wheat and corn.
- *94% B. eat insects which destroy the crops.
- 2% C. feed on seeds and wheat rust.
- 1% D. eat a portion of the farmer's crops.

(See PASSAGE #10: HEALTH HOTLINE)

55. Bloomsburg has opened up the Hotline because:

- 3% A. The number of doctors practicing in Bloomsburg has decreased.
- *92% B. Many of its citizens have asked for health information.
- 3% C. The number of auto accidents in Bloomsburg has increased.
- 1% D. Many cases of Asian Flu have recently been reported.

TABLE 6.4 (continued)

	Number of Items	Average Percentage Correct
AREA C: INTERPRETIVE COMPREHENSION (cont'd)		
OBJECTIVE 10: Predict an outcome implied in a paragraph or passage	4	80%

(See PASSAGE #2: DREAMS)

9. After rapid eye movement was discovered, scientists probably stopped believing that:

8% A. people can't always remember their dreams.
*78% B. some people never dream at all.
4% C. people's eyes move while they are asleep.
10% D. some people have as many as five dreams per night.

(See PASSAGE #3: AMERICA'S BRIDGES)

12. If bridges were inspected more regularly during the next five years, what would be the most likely result?

1% A. More bridges would fall apart because of neglect.
7% B. Fewer bridges would be more than 40 years old.
4% C. More bridges would be made of wood and not steel.
*86% D. Fewer bridges would be in bad condition.

(See PASSAGE #5: LETTER TO THE EDITOR)

26. What will probably happen if the newspaper doesn't change its policy on reporting girls' sports?

3% A. All of the female athletes at Lakewood High will decide to quit sports.
23% B. The athletes will write their own newspaper.
*70% C. Linda will keep trying to persuade the newspaper staff of her point of view.
3% D. The newspaper will interview more female athletes.

	Number of Items	Average Percentage Correct

(See PASSAGE #9: ENVIRONMENTAL RELATIONSHIPS)

50. If a farmer killed all of the insects on the farm that feed on wheat, the farmer would most likely:

6% A. be able to control the nonliving factors in the environment.
13% B. eliminate all harmful living factors from the environment.
*76% C. bring about a new series of changes in the environment.
4% D. eliminate all harmful nonliving factors from the environment.

AREA D: EVALUATIVE COMPREHENSION	7	70%
OBJECTIVE 11: Identify a statement as fact or fiction	4	69%

(See PASSAGE #4: CHILDREN'S LITERATURE)

17. Which of the following is an opinion?

3% A. New types of children's books have appeared recently.
21% B. Some people object to the new realism in children's literature.
*70% C. Fantasy and adventure stories are enjoyable to read.
5% D. Some picture books for young children deal with serious problems.

TABLE 6.4 (continued)

	Number of Items	Average Percentage Correct
AREA D: EVALUATIVE COMPREHENSION (cont'd)		
OBJECTIVE 11: Identify a statement as fact or fiction (cont'd)		

Read the advertisement below, then answer the question that follows.

> Anaril has extra strength. More strength than any other headache tablet. And Anaril combines that strength with safety.
>
> Anaril starts with a pain reliever recognized by a panel of experts as a safe treatment. The prominent physician Dr. Lyman Marks says, "I recommend Anaril to my patients for ailments from a headache to arthritis pain. It is a simple and effective remedy."
>
> It's only common sense to get the safety you expect with the extra strength you want. Get Anaril!

22. Which of the following statements is a fact?

- 2% A. Anaril is the best pain reliever for arthritis.
- 15% B. Everyone wants an extra-strength pain reliever.
- *73% C. Anaril includes a pain reliever.
- 9% D. Anaril is the most effective headache tablet.

(See PASSAGE #5: LETTER TO THE EDITOR)

27. Which of the following statements is a fact?

- 8% A. The article on Kathy Niebling belonged on the Sports Page.
- *41% B. The headlines on the Sports Page in every issue deal with boys' athletic events.
- 39% C. Girls' sports are here to stay, with or without news coverage.
- 12% D. The newspaper reporter who interviewed Kathy Niebling didn't know anything about swimming.

(See PASSAGE #6: ATC TURTLE)

32. Which of the following statements about the Turtle is an opinion?

- 3% A. It is a new car from ATC.
- 5% B. It has three available interiors.
- *90% C. Its price is unbelievably low.
- 2% D. It has a standard V-8 diesel engine.

TABLE 6.4 (continued)

	Number of Items	Average Percentage Correct
AREA D: EVALUATIVE COMPREHENSION (cont'd)		
OBJECTIVE 12: Identify the writer's purpose in a paragraph or passage written to inform or persuade	3	73%

(See PASSAGE #2: DREAMS)

10. The main purpose of the writer of this article is to:

1% A. criticize people who study dreams.
1% B. amuse people who do not dream.
0% C. persuade people to dream more often.
*97% D. inform people about dreams.

(See PASSAGE #4: CHILDREN'S LITERATURE)

15. The writer's purpose is to:

1% A. criticize people who have problems.
28% B. present a brief history of children's literature.
6% C. persuade young people to read more.
*65% D. promote the new trend in children's literature.

(See PASSAGE #6: ATC TURTLE)

33. The writer's main purpose in this passage is to:

*56% A. persuade people to buy Turtles.
1% B. explain how a Turtle works.
19% C. get people to test drive Turtles.
23% D. explain why the Turtle is a good buy.

	Number of Items	Average Percentage Correct
AREA E: LOCATING INFORMATION	5	88%
OBJECTIVE 13: Use the parts of a book	2	98%

Look at the index and answer the two questions that follow.

Recreation, 497-530
areas within national parks, 508-9
forestry industry lands and, 514
hunting and fishing as, 444-48
metropolitan parks, 511-12
shores and beaches, 515, 516-17
state parks, 510-11, 516-17

Water
artesian, 101, 120
consumption of, 103-5, 128-29, 131
distribution of rainfall, 92-93

Water (continued)
history of conservation of, 41, 44, 132
management, 116-52
municipal supplies of, 126, 132
pollution, 133-43, 269-70, 537
use projections, 128-29, 132-33

Wildlife, 390-411
animal resources, 392, 294, 289-99, 404
balance in nature, 391-92, 412-14
endangered species, 399-400
fur, 393-94, 401-2

29. Where should you look to find information on state parks?

0% A. pages 185-86
0% B. pages 269-70
*98% C. pages 510-11, 516-17
1% D. pages 535-40

30. On what pages would you find information about the amount of rain which falls in a particular area?

*98% A. pages 92-93
1% B. pages 115-153
0% C. pages 196-223
0% D. pages 508-509

TABLE 6.4 (continued)

	Number of Items	Average Percentage Correct
AREA E: LOCATING INFORMATION (cont'd)		
OBJECTIVE 14: Locate information in a variety of sources	3	81%

Use the section of the Yellow Pages below to answer the three questions that follow.

Rubbish Removal

Contractors' Equipment

Rug & Carpet Cleaning
See Carpet & Rug Cleaners

Rug & Carpet Cleaning Equipment
See Carpet & Rug Cleaning Equipment & Supplies

Rug & Carpet Dyers
See Carpet & Rug Dyers

Rug & Carpet Repairing
See Carpet & Rug Repairing; also Carpet & Rug Weavers

Rugs-Used
See Carpet & Rug Dealers-Used

Rugs-Wholesale
See Carpet & Rug Dealrs & Mfrs

Rust Preventives & Removers

CADET SAND, INC
Union Sq 723-7740

INDUSTRIAL SPECIALTIES INC
CRC & IAC
COOL, TOOL - CUTTING OILS
SALES & SERVICE
372 Chandler ..... Worcester 755-9132

RUST-LICK INC
Rust Preventives Metal Working Fluids
Metalworking ..... Wakefield 642-6442

VALVOLINE'S TECTYL—
INDUSTRIAL DISTRIBUTORS CO
333 Washington ..... Lynn 598-4100

Rust Proofing

GOODYEAR TIRE & RUBBER CO THE
Service Stores
13450 Bell Rd 266-3362
6 23 Auto Equipment Dlrs Rep 321-4200
1170 Old Post Rd 295-5770
2130 Division Blvd 924-5870

Rust Proofing & Metal Finishing Corp
See Our Ads At Plating
55 Carol Blvd 295-7020

THERO-TEX AUTO & TRUCK
RUSTPROOFING—
WAKEFIELD
BELL'S CITRO SERV
45 Water Pub 245-9835

ZIEBART AUTO-TRUCK RUSTPROOFING—
DEALER
LAZAT INC
Subsidiary Of W P Lazay & Sons Co
Methodist Blvd 295-8700
NEWTON
SILVER LAKE DODGE
6600 Harrison Blvd 945-1300

Rust Removal Service
See Metal Cleaning

45. Where should you look if you want to buy a secondhand rug?

*97% A. Carpet & Rug Dealers—Used
1% B. Rug & Carpet Dyers
1% C. Carpet & Rug Cleaners
0% D. Carpet & Rug Weavers

46. Which of the following is a company listed under Rust Preventives & Removers?

*81% A. Valvoline's Tectyl
2% B. Roberts Jes Equipment Company
14% C. Ziebart Auto-Truck Rustproofing
2% D. Silver Lake Dodge

47. In what other section of the Yellow Pages should you look to find information on a rust removal device?

18% A. Rust Proofing
12% B. Automobiles & Trucks—Rust Removal
*63% C. Metal Cleaning
7% D. Industrial Specialties, Inc.

TABLE 6.4 (continued)

PASSAGE #1: MEDICINE LABEL

Use this label to answer the next three questions.

For minor cuts, burns, skin irritations, dryness, chapping, windburn, sunburn. DIRECTIONS: For minor cuts and scrapes, first cleanse the affected area with soap and water, rinse and dry, and then apply First Aid Ointment. Smooth gently over affected area. CAUTION: In case of serious burns or large, deep, or puncture wounds, consult physician. If redness, irritation, swelling, or pain persists or increases, or if infection occurs, discontinue use and consult physician. Do not use for more than 10 days unless advised by a physician.

PASSAGE #2: DREAMS

Read this article, then answer the questions that follow.

Investigation into the causes and meanings of dreams has been made difficult by the fact that most people do not remember their dreams very well. Some people claim that they never dream at all. Until recently, it was impossible for researchers to know how often people dream, or to study many dreams.

In 1952, a graduate student at the University of Chicago noticed that when people are asleep their eyes move very rapidly at various points during the night. Scientists discovered that these rapid eye movements indicate that the sleeper is dreaming. They learned that the average person dreams about once every 90 minutes, for a period of about 20 minutes. Thus, everyone has about four or five dreams a night! When people are awakened while they are having rapid eye movements, they can usually remember their dreams clearly. The discovery of rapid eye movement has greatly advanced our understanding of dreams.

PASSAGE #3: AMERICA'S BRIDGES

Read this passage, then answer the two questions that follow.

Recently a survey was made of the condition of America's bridges. We often see bridges as symbols of strength because they are made of concrete and steel. Yet the survey showed that one out of every five bridges is in bad condition.

Age is one factor—most United States bridges are over 40 years old. Many are too narrow. But the chief villain is neglect. Most bridges are not regularly inspected once they are built. A small crack or strain can turn into a major problem if it is not repaired.

PASSAGE #4: CHILDREN'S LITERATURE

Read this passage, then answer the five questions that follow.

For centuries, folk tales and fables were the most popular types of children's literature. Then, the most popular books for children and young people were those that dealt primarily with what were considered happy, normal families, or with fantasy and adventure. In the last few years, the emphasis has changed, and many books—from picture books for very young children to novels for teenagers—deal with realistic problems. These books describe situations that people used to think were inappropriate for children's literature, with subjects such as divorce, death, and drug and alcohol abuse. Some people object to the new realism in children's literature. They feel that young people will find these stories depressing and frightening. Others defend the new trend by pointing out that the books show ways of understanding and dealing with common problems. Fantasy and adventure books are enjoyable to read, but they may not offer the reader help with the problems encountered in real life.

TABLE 6.4 (continued)

PASSAGE #5: LETTER TO THE EDITOR

Read this letter, then answer the six questions that follow.

To the Editor:

I am a member of the Lakewood High girls' varsity volleyball team, and I'm writing on behalf of the team to ask why we never get any decent coverage in the school paper. At the top of every issue's Sports Page is a giant headline for whichever boys' sport is in season—football, basketball, or baseball. Then come shorter articles on the less popular boys' sports, like wrestling and track. If you look hard enough you may find a paragraph covering the girls' athletic events—that is, if there's enough space left over after covering the more important news.

Even Kathy Niebling's trip to the Nationals in swimming—one of the biggest athletic events in the school's history—wasn't covered in the sports section where it belonged. Instead there was an interview with Kathy in the Feature Section. Whoever conducted the interview didn't know a thing about swimming; he was more interested in what color suit Kathy wore to the competition and how she kept her hair looking so nice.

Maybe I could understand it if girls' sports were a new thing at Lakewood High, but they're not. Girls have been competing in swimming, volleyball, and gymnastics for over 10 years, and in basketball, track, and soccer for the past five years. Girls' sports are here to stay. We're developing good athletes, good teams, good reputations, and loyal fans. The only thing that never seems to get any better is our publicity.

All we're asking is for the school newspaper to cover all of the athletic news instead of just half of it. After all, it's our school too.

Linda Vitale

PASSAGE #6: ATC TURTLE

Read this advertisement, then answer the three questions that follow.

The new ATC Turtle is a car well worth owning. It is the most luxurious, yet practical car ever manufactured. Available interiors include crushed velour, colorful vinyl, and glove-soft leather. The standard V-6 diesel engine will deliver excellent gas mileage, 22 to 30 miles per gallon, depending upon the type of driving you do and the optional equipment you choose. Passenger comfort is unsurpassed, the handling is the best you have ever experienced, and the price—unbelievably low. You owe it to yourself to go to your nearest ATC dealer and test drive the new Turtle. You'll be glad you did!

PASSAGE #7: KING TUT

Read this passage, then answer the three questions that follow.

Approximately three thousand years ago, an Egyptian king named Tutankhamen was buried in a lonely valley outside the city of Thebes. Many beautiful and costly objects were buried with him, so that he would have everything he needed in the afterlife. These objects were never supposed to be uncovered again.

However, Tutankhamen had died during a period when the government was having trouble keeping order and guarding the tombs of the kings. Robbers broke into Tutankhamen's tomb twice, stealing gold and precious oils. After each robbery, the tomb was resealed and the entrance was hidden.

In 1976, treasures from Tutankhamen's tomb went on display in the National Gallery of Art in Washington, D.C. They had been loaned to the United States for three years by the Egyptian government. The exhibition has been taken to several museums in the United States, where millions of Americans have been able to see the most beautiful objects from ancient Egypt that have ever been discovered.

TABLE 6.4 (continued)

PASSAGE #8: ARTIFICIAL RESPIRATION

Respiratory arrest can be caused by drowning, electric shock, suffocation, strangulation, or drug overdose. Artificial respiration, or rescue breathing, is a fairly simple first aid technique that can be used to restore a person's breathing. If a person has stopped breathing, it is important to begin artificial respiration as soon as possible. The longer a person's breathing is stopped, the more likely it is that brain damage will occur as the result of a lack of oxygen to the brain.

Artificial respiration has two basic steps: (1) opening the airway and (2) restoring breathing.

STEP 1: To open the airway, place one hand behind the victim's neck and the other hand on the victim's forehead. Then lift the neck gently with one hand, and tilt the head backward with the other hand. (See Figure 1.) Make sure that the victim's tongue is not blocking the throat, and make sure the breathing passage is clear.

FIGURE 1

STEP 2: If the person does not begin to breathe after the airway has been opened, mouth-to-mouth resuscitation must be performed. The rescuer should take a deep breath and place his or her mouth over the mouth of the victim, being sure to create a tight seal so that no air will escape. The rescuer should blow air into the victim's mouth, and then move away so that the air can be released from the victim's lungs. This cycle should be repeated every five seconds until breathing is restored or professional medical personnel arrive on the scene.

FIGURE 2

Illustrations from Cardiopulmonary Resuscitation, Copyright © 1974 by The American National Red Cross. Reproduced with permission.

PASSAGE #9: ENVIRONMENTAL RELATIONSHIPS

Read this passage, then answer the three questions that follow.

How much grain a farmer can raise on an acre of land depends on many factors. All of these factors can be divided into two large groups. Such things as the richness of the soil, the amount of rainfall, the amount of sunlight, and the temperature belong together in one of these groups. This group may be called nonliving factors. The second group may be called living factors. The living factors in any plant's environment are animals and other plants. Wheat, for example, may be damaged by wheat rust, a tiny plant that feeds on wheat; or it may be eaten by plant-eating animals such as birds or grasshoppers. Birds, however, do not just cause damage to plants; they can also be helpful to a farmer. Birds may eat a small portion of a farmer's crops, but they also eat many insects. Without the birds, insects might multiply very rapidly and destroy even more of the crops.

It is easy to see that the relations of plants and animals to their environment are very complex, and that any change in the environment is likely to bring about a whole series of changes.

PASSAGE #10: HEALTH HOTLINE

Read this passage, then answer the three questions that follow.

In response to many, many requests, Bloomsburg has opened up a Health Hotline. Information on subjects from backaches to epilepsy is now available over the telephone. Anyone will be able to call 468-5463, ask for one of 180 tapes by number, and sit back and listen to an explanation of the subject. The local newspaper will carry a list of subjects and tape numbers. These tapes will include information on alcoholism, drug abuse, and mental illness.

Health Hotline's three- to five-minute tapes are not to be used as a substitute for a doctor. Tapes should never be used as an emergency cure. This service should be used for acquiring health information, for recognizing the early signs of a health problem, or for living with a serious illness.

CHAPTER 7

ACHIEVEMENT RESULTS: WRITING

Introduction

The purpose of this chapter is to examine the test performance of Massachusetts twelfth-graders in Writing. Unlike the Reading and Mathematics objectives, the objectives for the Writing assessment are not each measured by separate test items. Instead, the holistic method of scoring employed encompassed all of the writing objectives. As published in the Department of Education's "Basic Skills Improvement Policy and Regulations," these objectives are as follows.

Given the opportunity to use a dictionary, students, through their own writing samples, will demonstrate:

(a) Knowledge of the subject
    1. The writer has something to say
    2. Ideas are supported with relevant details

(b) Clear and consistent purpose

(c) Organization
    1. Ideas are related
    2. Ideas progress logically from one point to another

(d) An awareness of the intended reader

(e) Precise word choices
    1. Words appeal to the reader's senses
    2. Words suit the purpose
    3. Words are appropriate for the intended reader

(f) Fulfillment of the purpose
    1. Adequate information is provided
    2. The writing is free of irrelevancy
    3. The conclusion reemphasizes the purpose

(g) Correct capitalization and punctuation

(h) Correct spelling

(i) Legible handwriting

(j) Complete sentences

(k) Standard use of nouns, pronouns, verbs, adjectives, and adverbs

(l) Agreement of subject and verb

The test items. Two separate types of writing exercises were included on the test. The first item instructed students to write a letter of complaint to a shirt manufacturer about a defective shirt. In this item students are supplied with facts and must follow the directions to communicate the facts effectively. The second item required students to write an essay concerning a memorable person from their past. This item gives students a great deal of freedom in choosing both the style and content of their writing. The two items appear below.

ITEM 1: You bought a shirt for $9.98 at a department store. After wearing it once, you washed it according to the directions on the shirt label. In spite of the care you took in washing it, the shirt shrank so much that you could no longer wear it. The manager of the department store refused to exchange the shirt and told you to write to the manufacturer at the following address:

The Everwear Shirt Company
Box 256
State Street
New York, New York 10012

Write a letter to the manufacturer describing the problem with the shirt and asking to have your money refunded. Use your own name and address in the letter.

ITEM 2: We all remember certain people from our past. You may remember someone who helped you, someone who hurt you, or someone you admire.

Think about a person who made an unusually strong impression on you. Write about that person telling why you remember him or her.

Scoring the Writing Exercises

Description of the scoring method. Just as the Writing test is fundamentally different from the Reading or Mathematics tests, so the results are different. To understand the results for Writing, one must first understand the scoring method. Each of the two writing items was scored using the "holistic scoring method."

Holistic scoring is an impressionistic and quick scoring process that permits ranking of writing products on the basis of their *overall* quality. It relies upon the scorers' trained understanding of the general features that determine distinct levels of achievement, on a scale appropriate to the group of writing pieces being evaluated.

The major assumption upon which holistic scoring is based is that the quality of a piece of writing should be judged on its overall success as a whole presentation, rather than on the quality of its component parts. In other words, the "whole" of a piece of writing is assumed to be greater than the sum of its parts.

Contributing to the rationale underlying holistic scoring is the belief that no aspect of writing skill can really be judged independently. Teachers, it is contended, can recognize and agree upon good writing when they see it, regardless of how they verbally describe writing ability; and teachers will rank pieces of writing in much the same way notwithstanding any discrepant views they might hold about how particular components of writing should be weighted.

The holistic scoring procedure. Before the training of scorers and actual scoring occur, a highly skilled chief reader and assistant reader(s) read a substantial number of papers from the pool of papers to be scored. For each test item, a set of "range-finders" are identified. Range-finders are those papers that are representative of the range of achievement demonstrated in the total set of papers. Each range-finder is assigned a score from 1 to 4, where 1 represents a poor paper and 4 represents a superior paper.

At the holistic scoring session, scorers are trained to assign scores to papers until it is ascertained that the scorers are making judgments consistent with each other and the chief reader. Then the scoring of writing samples begins.

In the holistic method, each of two readers scores an item by reading it through relatively quickly and assigning it a number from 1 to 4. The score received by a student on a given item is the sum of the scores of the two readers--that is, a score ranging from 2 (poorest) to 8 (best).

Use of the holistic method guarantees that the two scores assigned a given writing sample are not discrepant by more than one point. (In cases where two readers award substantially different scores, such as a 1 and a 3, the chief reader arbitrates the discrepancy.) As a result, each of the final scores, which range from 2 to 8, is the sum of a unique pair of scores assigned by the two readers. For example, a total score of 5 can only result from a score of 2 from one reader and a score of 3 from the other. It cannot be the total of scores of 1 and 4, since such a pair of scores would have been arbitrated to resolve the discrepancy. Similarly, a total score of 6 can only result from summing two scores of 3 from each reader.

Note that the process of summing the scores of the two readers tends to expand the scoring scale to account for "borderline" papers. A paper which receives a "4" from both scorers (for a total score of 8) is likely to be better than a paper which one reader assigns a "4" and another reader assigns a "3" (for a total score of 7). In addition, it should be emphasized that each of the score points represents a *range* of student papers--some "5" papers are better than others.

Results of the Writing Assessment

Interpreting the scores. Examples of the actual student papers which helped to define each of the four scoring categories must be read in order to provide meaning to the results which follow. Prototypical examples of both letters and essays which were assigned each score are presented below. Since each of two scorers would assign these papers a 1, 2, 3, or 4, total scores on the prototype papers would be 2, 4, 6, or 8.

Immediately following the sample papers are sets of descriptors which may be associated with papers in each scoring category. These descriptors are just that--descriptions of characteristics common to papers of a particular score. It is not necessarily the case that *all* papers in a given scoring category will possess *all* of the characteristics associated with that category. Indeed, the method of holistic scoring precludes the use of such checklists, which are more properly associated with analytical scoring methods. These descriptor lists are not provided to readers at the scoring session. Rather, they are the result of an examination of papers which received each score and an attempt to describe these papers concisely.

Note that a score of 0 may be assigned to a paper for a number of reasons. Papers that merely repeat the assignment, inadequate responses, or blank, obscene, or illegible papers receive a 0. A score of 0 is not to be construed as worse than a score of 2. A 0 indicates only that the paper is not scorable and therefore that the student's writing skills remain to be assessed. Both readers must agree that the paper deserves a 0. Otherwise, a third reader arbitrates the discrepancy.

PROTOTYPE PAPERS REPRESENTING THE SCORING RANGE FOR THE LETTER

SCORE = 1

Dear Sirs,

I have ran into a problem with the product that your company manifactures. I owned the shirt for a short time. It has shrunk so much in this time that I can no longer wear it. I would like a refund for my purchase or I will call the better business bureau.

Thank You

137

SCORE = 2

The Ever-wear Shirt company
Box 25
State Street
New York, New York 10012

Dear Sir,

I'm writing to your company, to tell you about one of the products I hade bought, in your store. It was a shirt for $9.98, I washed the product just as it said on the label, but it did not turn out the, way I wanted it to. After I had washed it I toed the, shirt on, it had shrunk. I am very unpleased with this, that Why I am writing to you asking for my refund back. I was very disappount, with this product.

I hope that in the future this will not, happen again. You can get intouch with me, My Name is ——— ———, I live at 40 ——— Street, ——— Mass. 02—. I hope that you would get in touch with, me as soon as possible, to tell me what, you think about your product Thank-You very, much for taking the time to read my letter

Sincerly

———

———

-90-

135

SCORE = 3

15 ——— ave.

———, ma.
02

Dear Sirs,

I am writing in concern to a problem I have had with one of your products recently.

I purchased a flannel shirt from your company at Digbys department store on February 17, 1979. Despite following your label directions carefully, the shirt shrank considerably after the first washing.

We have purchased many of your products in the past with no problem, but when I brought the shirt back to Mr. Digby he refused to refund my money.

It appears to me that the refund policy between your company and Mr Digby is of your concern, and not mine, but in the meantime I would greatly appreciate either a refund of my money or credit towards another product.

Sincerely;

——— . ———

3

139

SCORE = 4

——— Avenue
——— Massachusetts
March 11, 1979

The Fashion Shirt Company
Box 256
State Street
New York, New York 10012

Gentlemen:

I recently purchased a tailored shirt for $9.98 at your Boston branch. After following the washing directions on the label, I was appalled when I realized that indeed the shirt shrank, regardless of the care I took in washing it. However, I was yet more appalled to find, upon stating my case to the manager of the department where I purchased the shirt, that I was not able to exchange it. He instructed me to write to you, the manufacturers, for a refund. I realize the unavoidable margin of error in all guarantees set forth by large corporations. I admit I was highly displeased, but I would be content to receive a refund and would appreciate your efforts in this area. I hope that future purchases of your garments will not be as unfortunate as I.

Sincerely,

3

140

-91-

DESCRIPTIONS OF SCORING CATEGORIES FOR ITEM 1

Score	A letter given the score at left is likely to:
4	A. include all necessary information B. precisely and effectively describe the problem with the purchase C. express an appropriate tone D. demonstrate command of sentence structure, spelling, usage, and mechanics E. follow business letter form
3	A. include necessary information B. describe the problem with the purchase C. express an appropriate tone D. include few errors in sentence structure, spelling, usage, and mechanics E. follow business letter form
2	A. have inadequate information B. include several errors in sentence structure, spelling, usage, and mechanics C. be written in non-business letter form
1	A. poorly convey information B. exhibit serious errors in sentence structure, spelling, usage, and mechanics C. be written in non-business letter form
0	Suggests that more information is required in order to validly assess the student's writing skills. Papers that merely repeat the assignment, inadequate responses, or blank, obscene, or illegible papers receive a 0.

PROTOTYPE PAPERS REPRESENTING THE SCORING RANGE FOR THE ESSAY

SCORE = 1

I remember someone who hurt me his name was John. He took advantage of my kindness by conning me.

I met him one night I had went to this party and we talked we decided that we would see more of each other. So we dated a little then one day he was gone just like that He just vanished. I don't say good bye nothing! And that hurt me because I really liked him.

142

SCORE = 2

I couldn't think of anything good to write about

I have this friend who there when I need him, for he lives a just two towns away. His name is Roger. When ever I see him he's always up to something good.

I really admire Roger for some of the things he's done. He's one of the few people I know who scored an eight hundred on his S.A.T.'s which got him into an ivory league school. He's also traveled the world. One other thing I like about Roger is he always has pretty women around.

A good thing that Roger has around is he gives great advice, if I'm in a jam or not. So now you have heard my tale about Roger the dodger.

143

SCORE = 3

Many people have relatives who they like or admire. But not many of these people have relatives who are not just related but are true friends and respect your point of view. Edward was a cousin, but mostly a friend.

Eddie was kind of a quiet and private person. Though he had three brothers, he was the one who could talk to you on matters either in the news or concerning yourself. Both of us being the youngest in our families made understanding a little easier. Not only talking but being funny, competative, involved, and always assured of himself in anything he did. The kind of friendship I received from Eddie made a cousin feel like a brother.

I was naturally shocked when I heard that Eddie had been killed in a trucking accident on June 12, 1976. It was terrible to see Eddie, only 21 years old, die so sudden when he had so much life and friends ahead of him.

111

5

SCORE = 4

last summer I had the chance to meet a boy, or rather, a man who made a lasting impression on me. I came to know him very affectionately, as "Spokes". Spokes taught me a great many things and helped me to grow in a great many ways. He gave me love and showed me how to love. He gave me friendship and showed me how to be a friend. He showed me happiness and he gave me a greater understanding of myself, helping me to strengthen my relationship with God.

I had many interpretations of Spokes on my first encounter with him and my later friendship which developed with him only confirmed these interpretations. I met him on a drizzly, gray day. He wore work overalls with dark blue t-shirt underneath. His dress was simple and later I would find out that his dress reflected him as a person. He was a simple person. He had curly hair and warm, loving brown eyes. I felt as though I could look into his eyes and on deep down inside him. The most important part of Spokes was his ever present smile. There was almost always a smile spread across his face. He had achieved an air of easy going handsomeness in the first nineteen years of his life.

Spokes taught me how to love and care and be a friend by setting an example for me. He loved me, cared for me and was my friend. He didn't give himself to me as a sometime friend but rather as an always friend. He was always there

5

-94-

145

SCORE = 4 (continued)

when I needed him. He noticed when I was sad and offered comfort. When I was happy he shared my joy. He let me know that when I confided in him, those confidences wouldn't be betrayed. He was a total and absolute friend.

Spoke also showed me how to laugh, how to be happy. He pulled me through depression. When I was down so low it seemed I could go no lower, he would say to me, "Are you tired of being depressed? Then just forget it. You've got a ton to be happy about. Be happy!" He never gave me sympathy but just pushed and pulled and tugged to get me out of "slumps." Now I don't need him anymore when I get depressed. I've learned to avoid sadness and when it comes to jump out of it or if I can't do that, to live through it. Spoke taught me that there's always hope.

By helping me to reveal myself to him, Spoke helped me to reveal myself to me. I showed myself who I was and consequently gained a greater awareness of myself. He helped me to get to know myself by encouraging me to let him go to know myself by painful in ways to open old hurts and frustrations but once the wounds were opened, they had a chance to heal.

The most important thing Spoke gave me, was he helped me to grow, to be a strong Christian. I never really know what having a re-

lationship with Christ was until Spoke showed me total commitment. Once I totally commited myself to Christ, Kevin helped me to grow. Very gently he taught me, pointed out wrongs in my life, encouraged the rights, Most importantly, he played for me.

Spoke is someone who I could never forget. He gave me so much and taught me so much. He is imbedded in my memory forever because in giving all he did, he gave me a part of myself.

STOP DO NOT TURN THE PAGE UNTIL TOLD TO DO SO.

DESCRIPTIONS OF SCORING CATEGORIES FOR ITEM 2

Score	An essay given the score at left is likely to:
4	A. effectively convey why the subject is remembered B. show careful selection of supporting detail C. show strong control of sentence structure and paragraph organization D. demonstrate command of spelling, usage, and mechanics
3	A. clearly convey why the subject is remembered B. include supporting details C. show correctness in sentence structure and paragraph organization D. be relatively free of errors in spelling and punctuation
2	A. convey in a limited way why the subject is remembered B. have inadequate supporting details C. include problems in sentence structure or paragraph organization that can be remediated D. include some errors in spelling and punctuation
1	A. inadequately address the topic B. include little or no supporting detail C. exhibit serious problems in sentence structure or paragraph organization D. include many errors in spelling and punctuation
0	Suggests that more information is required in order to validly assess the student's writing skills. Papers that merely repeat the assignment, inadequate responses, or blank, obscene, or illegible papers receive a 0.

Achievement results for the writing test. Figure 7.1 shows, for both the letter and the essay, the percentage of students who were awarded each possible score. On both items, the largest percentage of students received a score of 5. The average score was 5.2 for the letter and 5.3 for the essay. Note that more essays than letters (5.7% versus 1.6%) were judged to be unscorable. This is most probably due to the fact that the letter provided students with a great deal of direction, while the essay provided little. As a result, very few students failed to respond at all to Item 1, while some students simply did not write anything at all in response to Item 2. In addition, some students were assigned a "0" on the essay because their piece of writing bore no relationship at all to the instructions. The decision was made that it was not possible to evaluate such "off-the-topic" papers in comparison to papers which addressed the topic.

The Writing Substudy

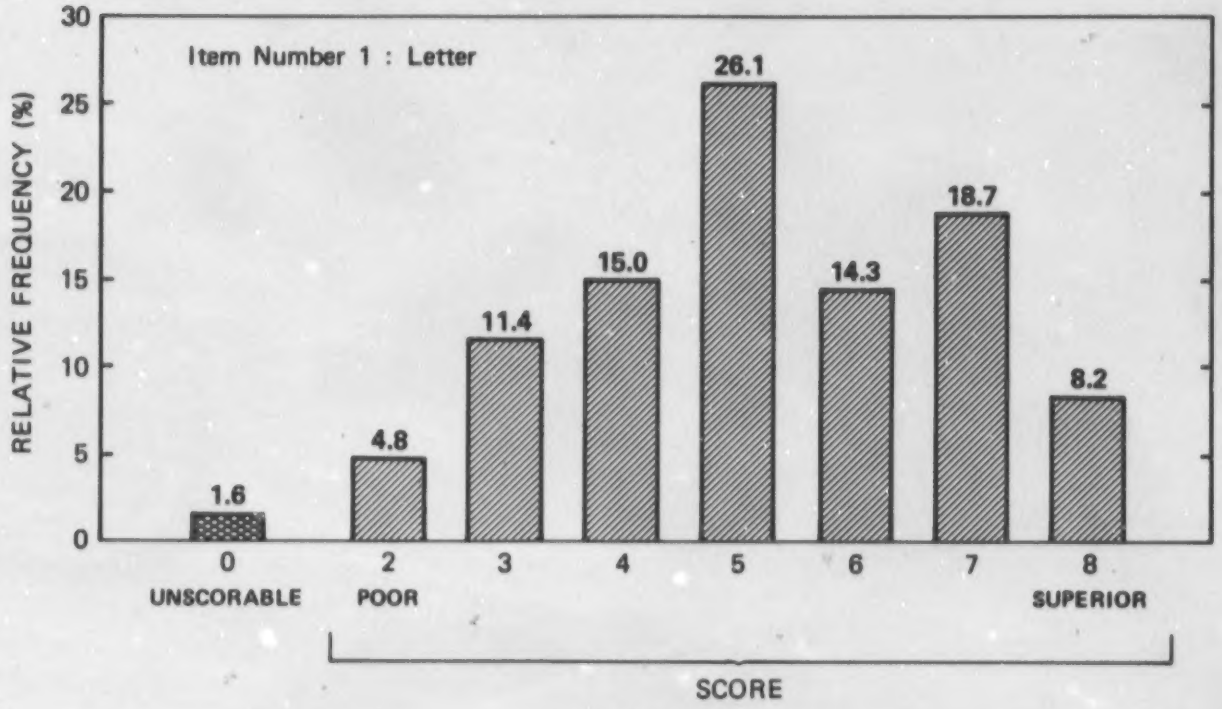
Overview. While in everyday life we have the opportunity to make revisions in writing of even moderate importance, the conventional assessment situation does not provide the student with an opportunity to revise a writing exercise. The Writing Technical Committee pointed out that it was becoming increasingly popular to teach writing by giving students practice in composing a first draft and then revising the first draft to put the piece of writing into final form. Since conducting the writing assessment in such a manner would have presented considerable logistical and economical difficulties, it was decided that a small substudy would be conducted in which a group of students would be given the opportunity to revise their writing on the day following test administration.

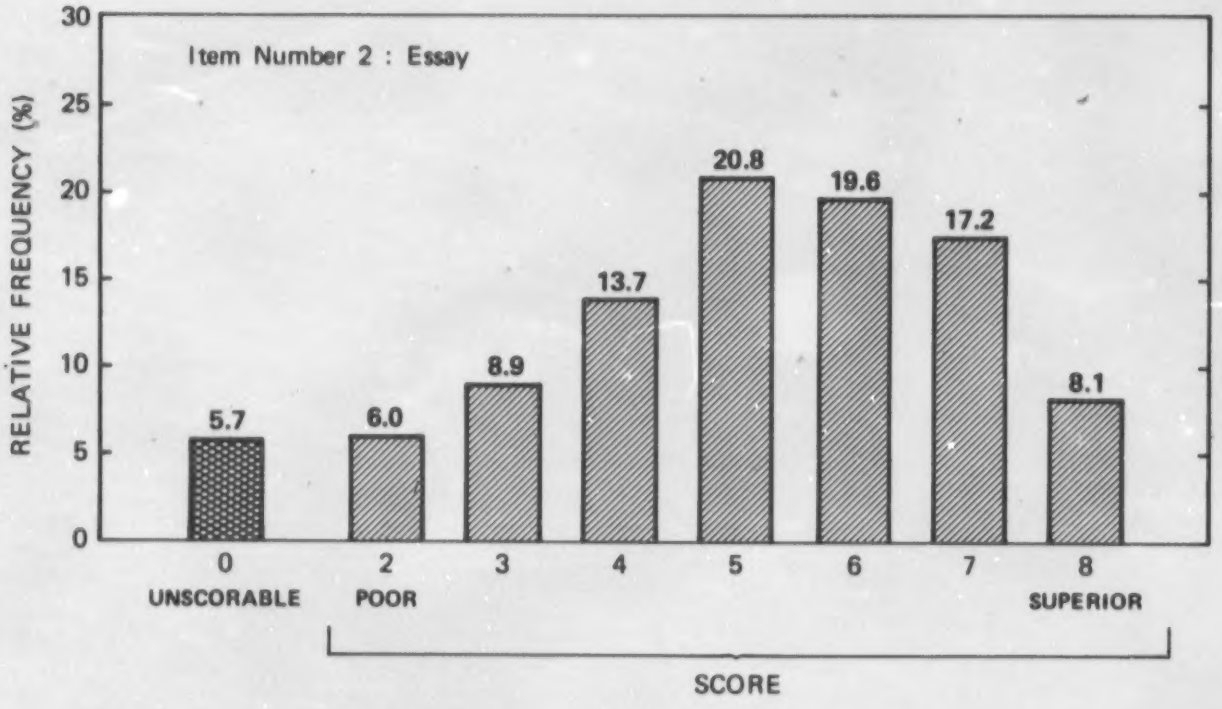
Procedure. A total of 209 students from two school districts which were enrolled in the Local Option participated in the study. The first test session was conducted in every way the same as all other sessions for the Writing test, with one exception: at the conclusion of the session, students were informed that on the next day their essays (Item 2 only) would be returned to them for revision. Students were urged to think about their essays overnight and about how they might improve them. On the following day their old test booklets were returned along with a new test booklet. Students were instructed to read over the first draft of their essay, revise it, and copy the final version into their second test booklet. The students were advised to keep in mind the following objectives as they rewrote their essays:

- Does your essay say something?
- Is it supported with specific details?

FIGURE 7.1

Distribution of Writing Scores for Massachusetts Students





- Is it clear and consistent?
- Is it organized? In other words, are ideas related to each other and do they progress from one point to another?
- Do you say what you mean to? Have you chosen your words carefully?
- Are you responding to the question asked?
- Do you use correct capitalization and punctuation?
- Are words spelled correctly?
- Can someone else easily read your handwriting?
- Do you use correct grammar?
- Is your essay written with an intended reader in mind--in other words, for a specific audience?

Results. All essays were scored using the same procedures and criteria as were used for all other students who were administered the writing test. Scorers were not told whether they were scoring first drafts or finalized versions of the essays. After both versions of all essays had been scored, the average scores for the first drafts were compared to the average scores for the revised essays.

Results of the substudy indicated that there was no statistically significant difference between student achievement on the first draft of the essay and the subsequently revised essay. The mean score for all students for the first day's exercise was 5.4; the mean score on the revision was also 5.4.

Examination of both versions of the essays of individual students showed no striking improvements in quality from draft to revision. It is likely that a more sensitive measurement device than holistic scoring would be needed to show significant differences between the two. The Writing Substudy did not show that double administration of a writing exercise is necessary for assessment purposes, but this conclusion does not address the effectiveness of the "write-rewrite" method of improving basic skills in writing.

CHAPTER 8

ACHIEVEMENT RESULTS FOR REPORTING GROUPS

Introduction

In this chapter tables are presented which relate test achievement in each subject area to various school and student characteristics. School information was solicited from the principals of each participating school and matched to the scores of students tested within the school. In addition, students were administered a questionnaire which requested information on their demographic characteristics, their experiences with basic skills education, the nature of their schoolwork, and their perceptions of school. The student and school variables, as well as region and kind of community, represented the pool of potential reporting variables.

The results are presented in the form of data tables only. The Summary Report contains narrative descriptions of policy-relevant findings.

Achievement Results by Subject Area

Understanding the computer reports. The analyses by reporting groups presented below for Mathematics and Reading provide the following information for the total test and each area. The P-VALUE is the estimated average percentage of test items answered correctly by students in the population or in the particular reporting group (see the section entitled "Interpretive Issues" in Chapter 3). SE OF P-VALUE is the standard error of measurement for the p-value. GROUP EFFECT is the difference between the state average (all students) and that for the reporting group. An asterisk (*) means that the group effect (the difference) is significant at the 95% confidence level. SE OF EFFECT is the standard error of measurement of the group effect. SAMPLE SIZE is the actual number of students in the reporting group who took the test.

Mathematics. Three sets of computer reports present the achievement scores for reporting groups in Mathematics. In the first set, which appears as Table 8.1, achievement in terms of mean total test scores of each of 25 student questionnaire reporting groups is compared to the achievement of all students. Mean total test score represents the average percentage of items answered correctly on the entire test. This is the most statistically reliable measure for use in these comparisons, since it is derived from the largest number of items (i.e., all items on the test).

On the second set of computer reports, Table 8.2, achievement in terms of mean total test scores for each of 28 principal questionnaire reporting groups is compared to the average achievement of all students on the total test. The third set of reports, Table 8.3, presents achievement comparisons on the six Mathematics areas for six reporting groups defined by sex, race, linguistic minority, socio-economic status, region, and kind of community.

The descriptive titles used to define each questionnaire item have been abbreviated for use on these reports. The reader is referred to Appendices B and C for the complete text of each item on the student and principal questionnaires, respectively.

Statistically significant differences between groups are indicated by an asterisk on each report. These differences were significant at the .05 level of confidence. The reader is referred to the section on "Interpretive Issues" in Chapter 3 for cautionary statements regarding inferences drawn from these results. While differences between groups may be *statistically significant*, they may be too small to be educationally meaningful. What is educationally meaningful depends on the reader's judgment about the practical implications of given differences in scores. The reader should also take into account the number of students in any particular reporting group. Results based on a small number of students may not reliably represent the true performance of the group. In this case local educators would do well to conduct their own investigations for a more accurate picture of the performance of such groups.

Reading. Analogous computer reports are presented for the Reading test. Table 8.4 presents total test achievement for student questionnaire reporting groups, and Table 8.5 shows total test achievement for reporting groups defined by the principal questionnaire. Table 8.6 compares achievement on the five Reading areas for the reporting groups defined by sex, race, linguistic minority, socio-economic status, region, and kind of community.

The descriptive titles used to define each questionnaire item have been abbreviated for use on these reports. The reader is referred to Appendices B and C for the complete text of each item on the student and principal questionnaires, respectively.

Writing. The analysis of reporting group achievement for the Writing assessment is presented in a different manner than for the other two subject areas. The average score for each reporting group is presented for both items, the letter and the essay, on the Writing test. Although differences between the mean scores for a reporting group and the statewide average are statistically significant, the reader should be especially

careful in interpreting these results due to the nature of these results. Small differences, such as one or two tenths of a point (5.2 versus 5.3) may not be educationally meaningful and therefore not useful in educational planning. Table 8.7 presents an analysis by reporting groups defined by the student questionnaire, and Table 8.8 shows the achievement scores for groups defined by the principal questionnaire.

TABLE 8.1

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE MATHEMATICS STUDENT QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE		REPORTING GROUP
83.87	0.66			3916		ALL STUDENTS
----SEX OF THE STUDENT					----	
85.01	0.81	1.15*	0.33	1921		MALE
82.94	0.61	-0.93*	0.36	1900		FEMALE
----RACE OF THE STUDENT					----	
84.42	0.63	0.55*	0.14	3568		WHITE
77.64	2.25	-6.22*	2.11	130		BLACK
77.41	1.44	-6.45*	1.44	98		OTHER
----LANGUAGE SPOKEN IN YOUR HOME?					----	
84.52	0.57	0.65*	0.18	3578		ENGLISH
72.10	2.71	-11.77*	2.61	40		SPANISH
74.04	1.47	-9.83*	1.63	65		PORTUGUESE
78.54	3.35	-5.33	3.09	69		IT,GR,CH
78.22	2.67	-5.64*	2.44	61		OTHER
----FAMILY OCCUPATIONAL STATUS					----	
79.72	0.91	-4.14*	0.76	485		LOWER
82.97	0.68	-0.90*	0.37	1311		MIDDLE
86.43	0.60	2.56*	0.41	1788		HIGHER
----ARE STUDENTS REQUIRED TO LEARN SKILLS?					----	
85.11	0.56	1.25*	0.24	3342		YES
74.10	1.39	-9.77*	1.07	371		NO
----HOW GOOD IS TEACHING OF SKILLS?					----	
91.42	0.31	7.56*	0.48	1670		VERY GOOD
80.97	0.61	-2.90*	0.33	1331		GOOD
72.45	0.98	-11.41*	0.59	587		FAIR
69.98	1.59	-13.89*	1.76	121		POOR
----WHAT IS THE LAST GRADE OF MATH COURSE?					----	
69.04	1.47	-14.83*	1.38	119		9TH GRADE
73.25	0.96	-10.61*	0.78	402		10TH GRADE
81.41	0.71	-2.45*	0.44	867		11TH GRADE
87.64	0.63	3.78*	0.47	2351		12TH GRADE

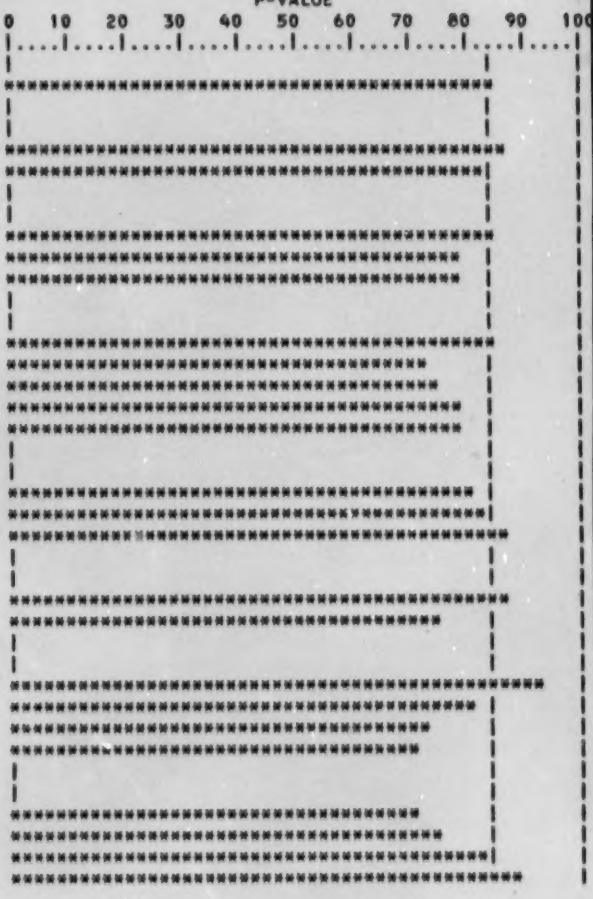


TABLE 8.1 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE MATHEMATICS STUDENT QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
83.87	0.66			3916	ALL STUDENTS
----IN WHAT PROGRAM ARE YOU NOW ENROLLED? ----					
78.71	0.99	-5.15*	0.77	484	GENERAL
79.07	1.25	-4.79*	1.27	504	VOCATIONAL
89.43	0.39	5.57*	0.49	2047	COLLEGE
76.76	0.80	-7.11*	0.75	520	BUSINESS
72.56	1.66	-11.31*	1.35	173	I DON'T KNOW
----HOW DO YOU LIKE SCHOOL? ----					
77.22	1.29	-6.65*	1.13	296	I HATE IT
82.73	0.70	-1.14	0.68	386	I DON'T LIKE IT
82.43	0.75	-1.44*	0.37	1375	IT'S OK
86.69	0.63	2.82*	0.41	1080	I LIKE IT
87.31	0.92	3.45*	0.59	596	I LIKE IT A LOT
----ARE YOUR PARENTS INTERESTED IN SCHOOL? ----					
79.96	0.83	-3.91*	0.59	587	HARDLY EVER
82.87	0.76	-0.99*	0.50	1079	ONCE IN A WHILE
85.25	0.61	1.39*	0.27	1166	FAIRLY OFTEN
86.59	0.69	2.72*	0.35	899	VERY OFTEN
----HOW OFTEN ARE YOU GIVEN HOMEWORK? ----					
86.74	0.51	2.87*	0.44	1566	DAILY
81.62	0.88	-2.25*	0.58	863	WEEKLY
82.68	1.00	-1.19	0.64	409	MONTHLY
82.29	0.92	-1.57*	0.58	891	NOT VERY OFTEN
----HOW MUCH TIME DOING HOMEWORK? ----					
82.62	0.65	-1.25*	0.29	2086	AN HOUR OR LESS
85.61	0.64	1.75*	0.40	1095	BETWEEN 1+2 HRS
86.89	0.85	3.03*	0.64	388	BETWEEN 2+3 HRS
86.19	1.53	2.33	1.34	155	MORE THAN 3 HRS
----TEACHER PRESENTED IN AN INTERESTING WAY?----					
81.61	1.84	-2.26	1.56	207	STRONG AGREE
85.19	0.65	1.32*	0.35	2108	AGREE
83.59	0.64	-0.27	0.42	1157	DISAGREE
79.60	1.52	-4.26*	1.32	232	STRONG DISAGREE

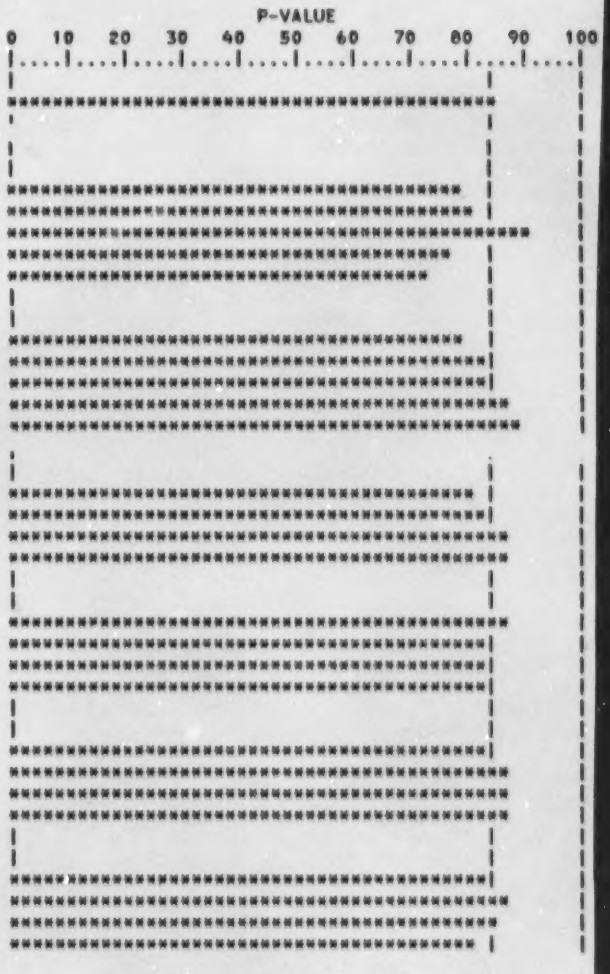


TABLE 8.1 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE MATHEMATICS STUDENT QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
83.87	0.66			3916	ALL STUDENTS
----TEACHER HELP ME UNDERSTAND USEFULLNESS? ----					
80.52	1.32	-3.35*	1.08	346	STRONG AGREE
84.37	0.62	0.50	0.31	1883	AGREE
85.19	0.66	1.32*	0.35	1165	DISAGREE
82.68	1.03	-1.18	0.88	313	STRONG DISAGREE
----TEACHER KNEW SUBJECT WELL? ----					
85.83	0.70	1.96*	0.36	1213	STRONG AGREE
84.46	0.61	0.59*	0.28	2173	AGREE
76.72	0.88	-7.14*	0.76	262	DISAGREE
72.31	2.17	-11.56*	2.19	67	STRONG DISAGREE
----TEACHER TAUGHT EFFECTIVELY? ----					
84.86	1.08	0.99	0.67	423	STRONG AGREE
85.31	0.57	1.44*	0.26	2441	AGREE
81.21	0.76	-2.65*	0.56	725	DISAGREE
76.75	1.89	-7.12*	1.82	116	STRONG DISAGREE
----TEACHER HAD DIFFICULTY CONTROLL CLASS? ----					
77.89	0.93	-5.98*	0.85	272	STRONG AGREE
81.50	0.74	-2.37*	0.54	830	AGREE
85.63	0.60	1.76*	0.32	2084	DISAGREE
85.55	1.00	1.68*	0.68	526	STRONG DISAGREE
----TEACHER WAS WILLING EXTRA HELP? ----					
84.92	0.68	1.06*	0.32	1426	STRONG AGREE
84.75	0.61	0.88*	0.38	1938	AGREE
78.82	1.11	-5.04*	0.96	225	DISAGREE
75.10	2.12	-8.77*	2.00	98	STRONG DISAGREE
----STUDENTS CONTINUE EDUCATION - PREPARED? ----					
85.95	0.92	2.08*	0.54	802	STRONG AGREE
85.05	0.60	1.18*	0.31	2010	AGREE
81.12	0.62	-2.75*	0.59	676	DISAGREE
78.70	1.40	-5.17*	1.42	189	STRONG DISAGREE

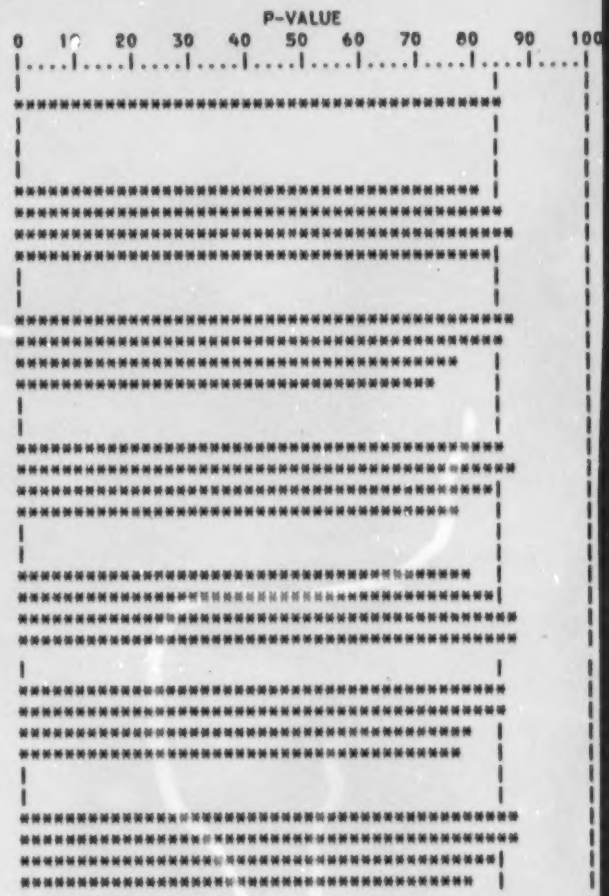


TABLE 8.1 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE MATHEMATICS STUDENT QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
83.87	0.66			3916	ALL STUDENTS
----STUDENTS JOB - PREPARED?					----
82.83	0.89	-1.03	0.67	607	STRONG AGREE
84.95	0.63	1.09*	0.30	2030	AGREE
84.52	0.63	0.65	0.34	853	DISAGREE
80.25	0.97	-3.61*	1.01	202	STRONG DISAGREE
----STUDENTS GRADUATE WITHOUT BASICS?					----
80.83	0.96	-3.04*	0.67	398	STRONG AGREE
86.06	0.61	2.20*	0.45	1027	AGREE
84.78	0.73	0.92*	0.42	1087	DISAGREE
83.40	0.64	-0.47	0.44	1180	STRONG DISAGREE
----STUDENTS LEARN MORE THAN BASICS?					----
83.49	0.80	-0.38	0.41	1179	STRONG AGREE
85.14	0.60	1.27*	0.34	1937	AGREE
84.30	0.70	0.43	0.61	403	DISAGREE
79.50	1.49	-4.37*	1.43	181	STRONG DISAGREE
----STUDENTS FIND CLASSES TOO EASY?					----
78.40	1.44	-5.46*	1.17	200	STRONG AGREE
82.53	0.80	-1.33*	0.58	816	AGREE
85.55	0.54	1.69*	0.37	2293	DISAGREE
83.21	1.12	-0.65	0.90	373	STRONG DISAGREE
----STUDENTS HAVE CHOICE ABOUT COURSES?					----
85.03	0.85	1.16*	0.54	967	STRONG AGREE
85.37	0.57	1.51*	0.35	1808	AGREE
82.69	0.92	-1.17	0.74	560	DISAGREE
78.95	0.98	-4.92*	1.07	349	STRONG DISAGREE
----STUDENTS ENCOURAGED IN CREATIVE AREAS?					----
82.43	0.96	-1.44*	0.61	522	STRONG AGREE
85.06	0.64	1.19*	0.39	1582	AGREE
85.16	0.61	1.30*	0.40	1053	DISAGREE
81.96	0.81	-1.90*	0.65	503	STRONG DISAGREE

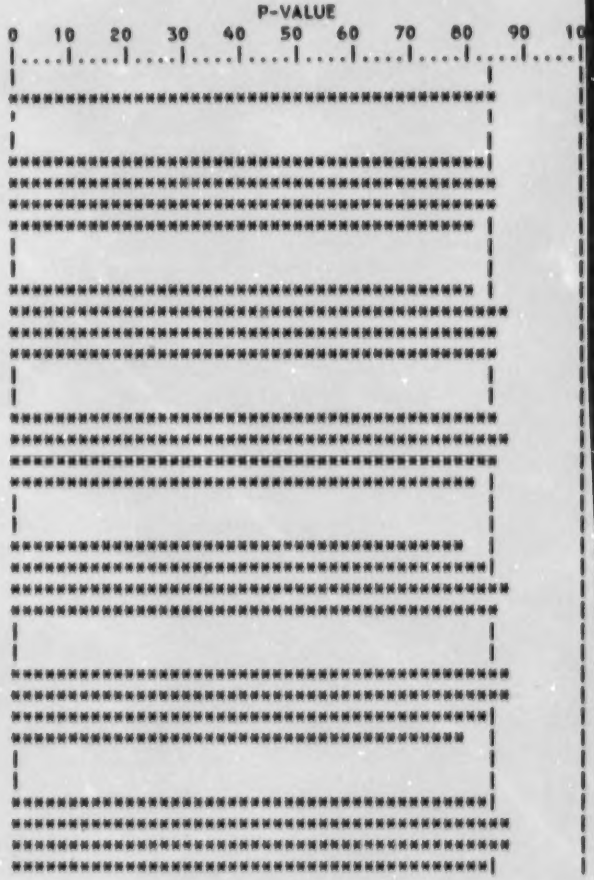


TABLE 8.2

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE MATHEMATICS PRINCIPAL QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
83.87	0.66			3916	ALL STUDENTS
----REGION OF THE STATE					----
84.32	1.29	0.45	1.19	882	BOSTON REG
83.14	1.35	-0.72	1.30	760	NORTHEAST
87.04	1.25	3.18*	1.21	362	PITTSFIELD REG
82.18	0.84	-1.68	0.95	703	SOUTHEAST
85.46	0.67	1.59	0.89	499	SPRINGFIELD REG
82.92	2.45	-0.94	2.08	710	CENTRAL MASS
----KIND OF COMMUNITY					----
81.59	2.23	-2.27	1.83	897	BIG CITIES
82.98	0.87	-0.89	1.00	524	INDUSTRIAL
85.95	0.80	2.09*	0.73	1474	RESIDENTIAL
83.05	0.97	-0.82	0.93	1021	OTHER
----QUANTITY OF ELECTIVE ENRICHMENT COURSES ----					
80.79	0.82	-3.08*	1.05	248	EXCESSIVE
84.89	0.82	1.02*	0.44	2728	JUST RIGHT
81.58	1.10	-2.29*	1.05	903	NOT ENOUGH
----QUANTITY OF REMEDIAL COURSES					----
83.71	0.18	-0.16	0.68	121	EXCESSIVE
84.18	0.83	0.32	0.66	1754	JUST RIGHT
83.03	1.00	-0.84	0.69	1899	NOT ENOUGH
----PERCENT OF 12TH NOT RECEIVE DIPLOMA					----
84.40	0.67	0.53	0.45	2916	0-4%
84.03	1.17	0.16	1.18	680	5-9%
76.03	4.59	-7.84	4.49	277	10-14%
----READING INSTRUCTION FOR LOW-ACHIEVING SS----					
82.56	1.18	-1.31	1.06	1108	REGULAR CLASSES
84.38	0.83	0.52	0.46	2657	SEPARATE CLASSES
----MATH INSTRUCTION FOR LOW-ACHIEVING SS					----
82.54	0.89	-1.33*	0.58	2253	REGULAR CLASSES
85.59	0.79	1.73*	0.66	1586	SEPARATE CLASSES
85.16	0.28	1.29	0.72	77	OTHER
----WRITING INSTRUCTION FOR LOW-ACHIEVING SS----					
83.79	0.65	-0.07	0.50	2927	REGULAR CLASSES
84.63	1.23	0.77	1.23	538	SEPARATE CLASSES
77.33	6.36	-6.53	6.10	184	OTHER

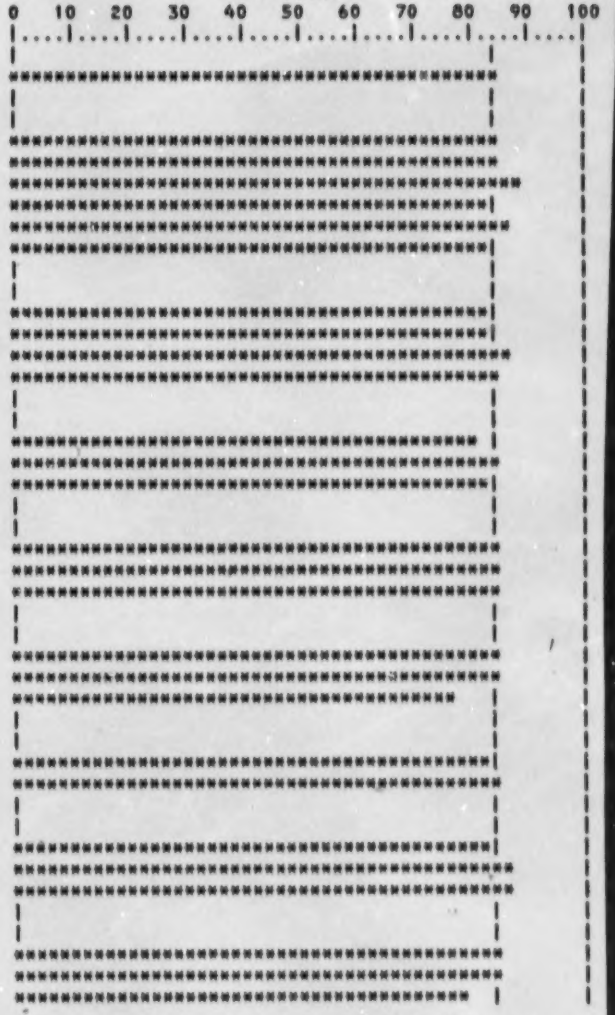


TABLE 8.2 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE MATHEMATICS PRINCIPAL QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
83.87	0.66			3916	ALL STUDENTS
----PARENTAL SUPPORT OF SCHOOL POLICIES ----					
77.78	2.63	-6.09*	2.72	252	FAIR
82.53	1.87	-1.33	1.56	931	AVERAGE
84.66	0.73	0.80	0.64	2062	GOOD
85.22	1.36	1.36	1.29	671	EXCELLENT
----EMPHASIS ON READING BASIC SKILLS ----					
85.15	0.75	1.29*	0.57	2030	JUST RIGHT
82.04	0.98	-1.83*	0.72	1755	NOT ENOUGH
----EMPHASIS ON WRITING BASIC SKILLS ----					
86.62	0.88	2.75*	0.89	959	JUST RIGHT
82.72	0.82	-1.14*	0.43	2826	NOT ENOUGH
----EMPHASIS ON MATH BASIC SKILLS ----					
84.71	0.73	0.85	0.54	2525	JUST RIGHT
81.77	1.37	-2.09	1.10	1260	NOT ENOUGH
----STATEMENT DESCRIBES ENGLISH COMPOSITION ----					
85.17	0.81	1.30	0.86	844	ALL REQUIRED
86.09	1.45	2.23	1.55	108	SOME REQUIRED
85.81	1.83	1.95	1.79	346	NONE REQUIRED
82.98	0.93	-0.89	0.47	2579	NOT SEPARATE
----STATEMENT DESCRIBES DEVELOPMENT READING ----					
82.92	3.98	-0.94	3.86	185	ALL REQUIRED
83.69	1.28	-0.18	1.00	1335	SOME REQUIRED
83.76	1.14	-0.10	0.93	1416	NONE REQUIRED
84.31	1.10	0.44	1.05	930	NOT SEPARATE
----STUDENTS REQUIRED TO TAKE A MATH COURSE ----					
84.08	0.69	0.22	0.14	3640	YES
80.68	0.75	-3.18*	0.97	276	NO
----STUDENTS KNOW WHAT TO LEARN ----					
85.38	4.43	1.52	4.21	230	STRONG AGREE
83.96	0.73	0.07	0.38	3143	AGREE
82.58	1.21	-1.28	1.26	543	DISAGREE

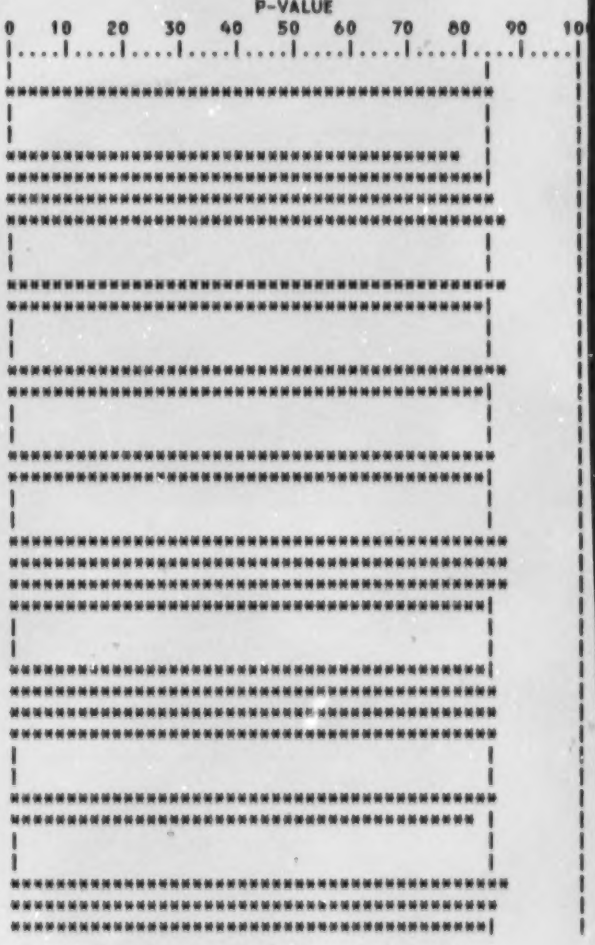


TABLE 8.2 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE MATHEMATICS PRINCIPAL QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
83.87	0.66			3916	ALL STUDENTS
----TEACHER ENCOURAGES DESIGN OWN COURSE ----					
83.89	2.40	0.03	2.29	344	STRONG AGREE
82.99	0.92	-0.88	0.56	2398	AGREE
85.26	1.26	1.39	1.19	838	DISAGREE
86.16	0.32	2.30*	0.71	336	STRONG DISAGREE
----STUDENTS DO AS LITTLE AS POSSIBLE ----					
82.51	1.52	-1.35	1.43	406	STRONG AGREE
82.89	0.79	-0.97	0.57	2265	AGREE
85.18	1.19	1.32	1.02	1039	DISAGREE
89.43	0.30	5.57*	0.73	60	STRONG DISAGREE
----SMALL GROUP STUDENTS DISRUPT LEARNING ----					
81.85	0.87	-2.01*	0.90	1230	STRONG AGREE
85.47	1.08	1.60	1.00	974	AGREE
85.19	0.61	1.33	0.76	1300	DISAGREE
72.24	0.44	-11.62*	0.79	58	STRONG DISAGREE
----TEACHERS ADEQUATE TIME EXTRA HELP ----					
83.38	1.10	-0.49	1.14	483	STRONG AGREE
84.45	0.66	0.58	0.47	2898	AGREE
80.85	3.04	-3.01	2.73	535	DISAGREE
----TEACHERS WORK FOR IND. INST. ----					
85.95	1.49	2.08	1.61	102	STRONG AGREE
84.35	0.68	0.49	0.59	2283	AGREE
82.10	1.31	-1.76	1.00	1336	DISAGREE
----STUDENTS PREPARED TO CONTINUE EDUCATION ----					
86.43	1.06	2.56*	1.04	892	STRONG AGREE
84.04	0.63	0.17	0.55	2667	AGREE
75.37	3.71	-8.50*	3.64	357	DISAGREE
----STUDENTS PREPARED TO GET JOBS ----					
82.32	2.21	-1.55	2.00	611	STRONG AGREE
83.99	0.77	0.13	0.67	1697	AGREE
83.87	1.16	0.00	0.87	1481	DISAGREE
86.38	0.44	2.49*	0.79	31	STRONG DISAGREE

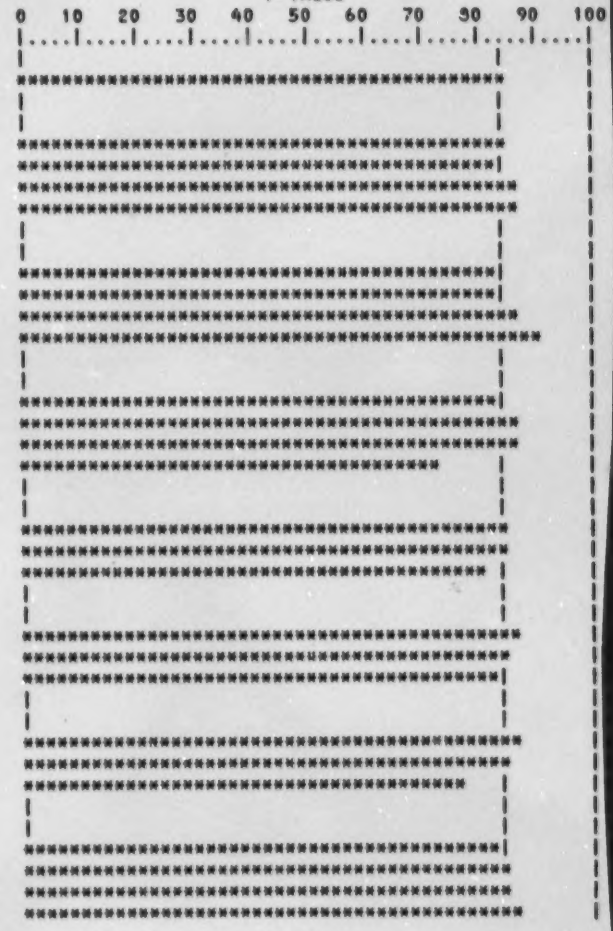


TABLE 8.2 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE MATHEMATICS PRINCIPAL QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
83.87	0.66			3916	ALL STUDENTS
----STUDENTS GRADUATE WITHOUT KNOWLEDGE ----					
80.44	1.04	-3.43*	1.12	351	STRONG AGREE
83.61	1.03	-0.26	0.78	1699	AGREE
85.59	1.06	1.72*	0.85	1377	DISAGREE
82.70	1.44	-1.17	1.52	195	STRONG DISAGREE
----STUDENTS LEARN OTHER USEFUL THINGS ----					
83.28	1.47	-0.59	1.37	741	STRONG AGREE
83.94	0.77	0.08	0.34	3119	AGREE
85.23	0.36	1.37	0.75	56	DISAGREE
----STUDENTS FIND CLASSES TOO EASY ----					
81.01	1.55	-2.85*	1.33	931	AGREE
84.46	0.64	0.59	0.52	2839	DISAGREE
----STUDENTS HAVE A CHOICE ABOUT CLASSES ----					
82.79	0.82	-1.08	0.92	954	STRONG AGREE
85.47	0.87	1.61*	0.57	2267	AGREE
81.80	1.92	-2.07	1.84	447	DISAGREE
76.43	1.23	-7.44*	1.37	248	STRONG DISAGREE
----STUDENTS ENCOURAGED IN CREATIVE AREAS ----					
84.19	0.72	0.32	0.89	798	STRONG AGREE
84.55	0.85	0.68	0.41	2722	AGREE
75.45	1.94	-8.42*	1.95	189	DISAGREE
80.83	2.08	-3.03	2.07	207	STRONG DISAGREE

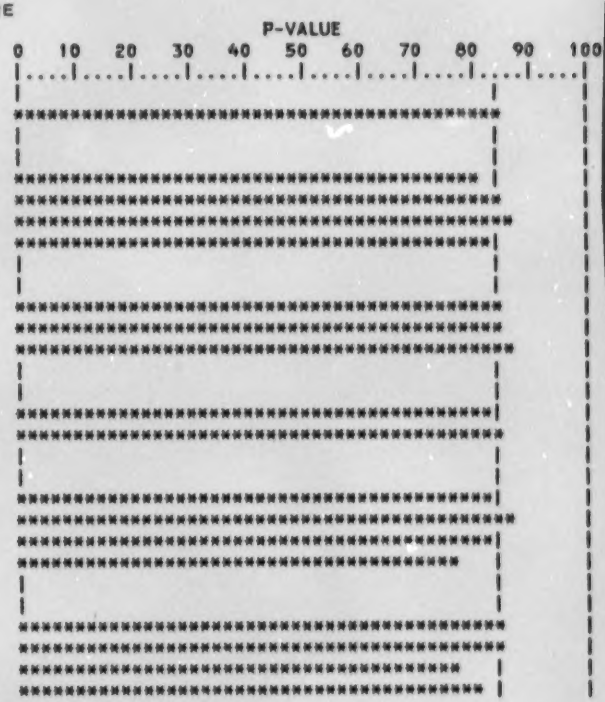


TABLE 8.3

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

DOMAIN 1. NUMBER AND NUMERATION CONCEPTS

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE		REPORTING GROUP
90.26	0.49			3916		ALL STUDENTS
----SEX OF THE STUDENT					----	
90.80	0.67	0.54	0.32	1921		MALE
89.83	0.48	-0.42	0.30	1900		FEMALE
----RACE OF THE STUDENT					----	
90.59	0.49	0.33*	0.11	3568		WHITE
86.50	1.73	-3.76*	1.64	130		BLACK
85.26	2.13	-4.99*	2.04	98		OTHER
----LANGUAGE SPOKEN IN YOUR HOME?					----	
90.76	0.46	0.51*	0.13	3578		ENGLISH
79.18	2.92	-11.08*	2.75	40		SPANISH
82.61	1.69	-7.65*	1.76	65		PORTUGUESE
85.07	2.85	-5.18	2.69	69		IT,GR,CH
85.49	2.23	-4.77*	2.14	61		OTHER
----FAMILY OCCUPATIONAL STATUS					----	
86.43	1.18	-3.83*	1.00	485		LOWER
90.09	0.56	-0.17	0.34	1311		MIDDLE
91.68	0.51	1.42*	0.39	1788		UPPER
----REGION OF THE STATE					----	
90.43	0.87	0.17	0.83	882		BOSTON REG
89.89	1.25	-0.37	1.12	760		NORTHEAST
92.92	0.84	2.66*	0.83	362		PITTSFIELD REG
89.24	0.78	-1.02	0.80	703		SOUTHEAST
91.49	0.54	1.24	0.65	499		SPRINGFIELD REG
89.27	1.58	-0.98	1.36	710		CENTRAL MASS
----KIND OF COMMUNITY					----	
89.37	1.45	-0.89	1.24	897		BIG CITIES
89.83	0.76	-0.43	0.83	524		INDUSTRIAL
91.46	0.67	1.20*	0.56	1474		RESIDENTIAL
89.43	0.94	-0.83	0.78	1021		OTHER

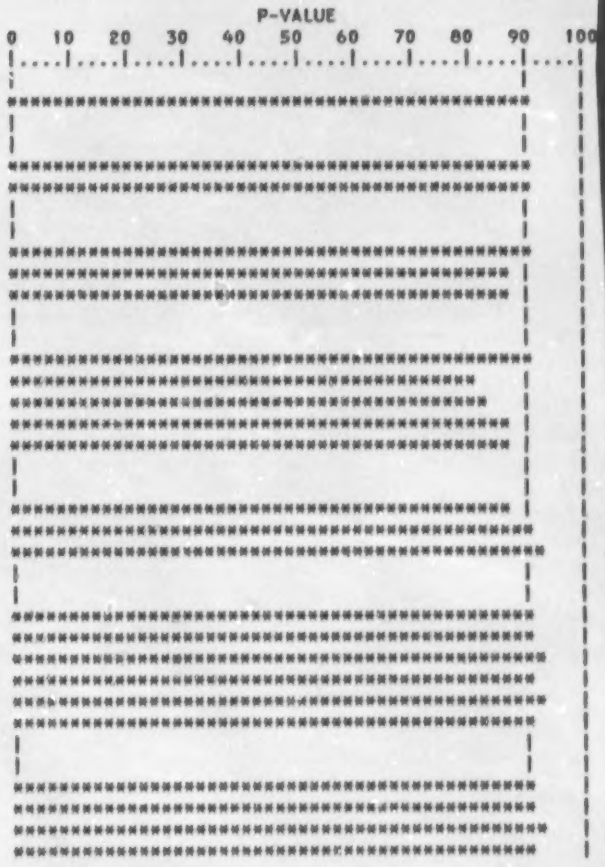


TABLE 8.3 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

DOMAIN 2. ARITHMETIC COMPUTATION

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE		REPORTING GROUP
84.12	0.72			3916		ALL STUDENTS
----SEX OF THE STUDENT					----	
84.10	0.90	-0.02	0.37	1921		MALE
84.55	0.58	0.42	0.46	1900		FEMALE
----RACE OF THE STUDENT					----	
84.79	0.66	0.66*	0.17	3568		WHITE
76.81	1.96	-7.31*	1.82	130		BLACK
77.50	1.85	-6.62*	1.81	98		OTHER
----LANGUAGE SPOKEN IN YOUR HOME?					----	
84.83	0.61	0.71*	0.23	3578		ENGLISH
71.28	3.49	-12.85*	3.34	40		SPANISH
75.27	2.23	-8.85*	2.35	65		PORTUGUESE
78.96	3.63	-5.17	3.30	69		IT,GR,CH
78.61	2.97	-5.52*	2.75	61		OTHER
----FAMILY OCCUPATIONAL STATUS					----	
80.21	1.01	-3.92*	0.83	485		LOWER
83.39	0.76	-0.73	0.42	1311		MIDDLE
86.67	0.62	2.54*	0.46	1788		UPPER
----REGION OF THE STATE					----	
84.16	1.25	0.03	1.20	882		BOSTON REG
83.51	1.49	-0.62	1.40	760		NORTHEAST
87.77	1.83	3.65*	1.72	362		PITTSFIELD REG
82.55	0.69	-1.57	0.92	703		SOUTHEAST
86.69	0.82	2.57*	1.00	499		SPRINGFIELD REG
82.77	2.61	-1.36	2.19	710		CENTRAL MASS
----KIND OF COMMUNITY					----	
82.63	2.64	-1.50	2.19	897		BIG CITIES
83.40	0.80	-0.73	1.00	524		INDUSTRIAL
85.80	0.87	1.68*	0.80	1474		RESIDENTIAL
83.21	1.08	-0.92	1.00	1021		OTHER

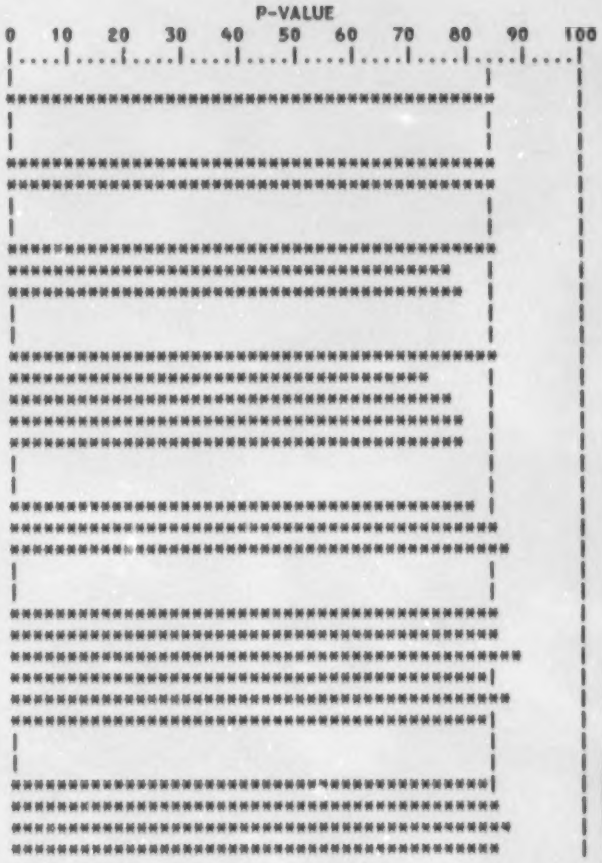


TABLE 8.3 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

DOMAIN 3. ESTIMATION AND APPROXIMATION

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE		REPORTING GROUP
80.10	0.70			3916		ALL STUDENTS
----SEX OF THE STUDENT					----	
81.19	0.90	1.09*	0.37	1921		MALE
79.20	0.69	-0.90*	0.37	1900		FEMALE
----RACE OF THE STUDENT					----	
80.59	0.70	0.49*	0.13	3568		WHITE
73.95	3.01	-6.14*	2.87	130		BLACK
72.95	2.23	-7.15*	2.18	98		OTHER
----LANGUAGE SPOKEN IN YOUR HOME?					----	
80.56	0.68	0.47*	0.11	3578		ENGLISH
71.80	3.91	-8.29*	3.78	40		SPANISH
71.19	1.95	-8.90*	2.10	65		PORTUGUESE
75.95	2.98	-4.15	2.90	69		IT,GR,CH
77.28	3.07	-2.82	2.93	61		OTHER
----FAMILY OCCUPATIONAL STATUS					----	
76.54	0.87	-3.55*	0.78	485		LOWER
78.80	0.74	-1.30*	0.36	1311		MIDDLE
82.86	0.68	2.76*	0.37	1788		UPPER
----REGION OF THE STATE					----	
81.08	1.54	0.98	1.36	882		BOSTON REG
78.72	1.43	-1.38	1.37	760		NORTHEAST
83.07	1.74	2.97	1.63	362		PITTSFIELD REG
78.78	0.93	-1.32	1.04	703		SOUTHEAST
80.96	1.10	0.87	1.17	499		SPRINGFIELD REG
79.64	2.30	-0.46	1.98	710		CENTRAL MASS
----KIND OF COMMUNITY					----	
78.13	2.29	-1.97	1.92	897		BIG CITIES
78.36	1.13	-1.74	1.21	524		INDUSTRIAL
82.49	0.96	2.39*	0.78	1474		RESIDENTIAL
78.97	0.96	-1.13	0.94	1021		OTHER

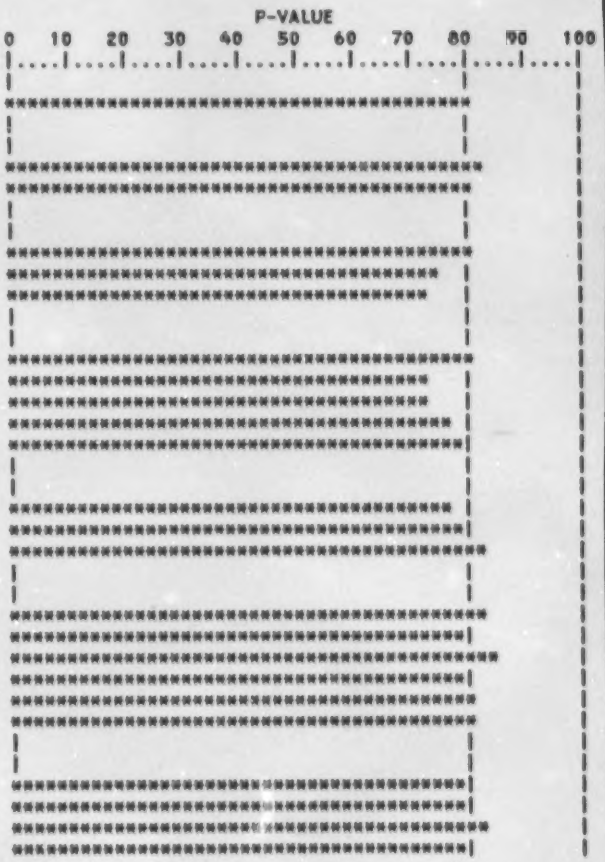


TABLE 8.3 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

DOMAIN 4. MEASUREMENT AND GEOMETRY

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE		REPORTING GROUP
79.83	0.75			3916		ALL STUDENTS
----SEX OF THE STUDENT					----	
82.83	0.83	3.00*	0.41	1921		MALE
76.84	0.86	-3.00*	0.36	1900		FEMALE
----RACE OF THE STUDENT					----	
80.27	0.75	0.43*	0.15	3568		WHITE
73.43	2.99	-6.41*	2.88	130		BLACK
73.76	1.67	-6.07*	1.60	98		OTHER
----LANGUAGE SPOKEN IN YOUR HOME?					----	
80.43	0.66	0.59*	0.18	3578		ENGLISH
66.61	2.52	-13.23*	2.41	40		SPANISH
66.85	1.47	-12.98*	1.49	65		PORTUGUESE
74.67	3.80	-5.17	3.55	69		IT,GR,CH
74.24	2.81	-5.60*	2.56	61		OTHER
----FAMILY OCCUPATIONAL STATUS					----	
73.99	1.19	-5.84*	0.99	485		LOWER
78.39	0.79	-1.44*	0.49	1311		MIDDLE
83.13	0.72	3.30*	0.49	1788		UPPER
----REGION OF THE STATE					----	
81.06	1.74	1.23	1.54	882		BOSTON REG
79.05	1.47	-0.79	1.45	760		NORTHEAST
82.83	0.74	2.99*	0.96	362		PITTSFIELD REG
77.16	1.66	-2.68	1.51	703		SOUTHEAST
80.60	0.77	0.76	1.03	499		SPRINGFIELD REG
79.90	2.33	0.06	2.04	710		CENTRAL MASS
----KIND OF COMMUNITY					----	
76.08	2.26	-3.75	1.92	897		BIG CITIES
78.55	1.10	-1.29	1.21	524		INDUSTRIAL
82.94	0.99	3.10*	0.86	1474		RESIDENTIAL
78.81	1.20	-1.03	1.08	1021		OTHER

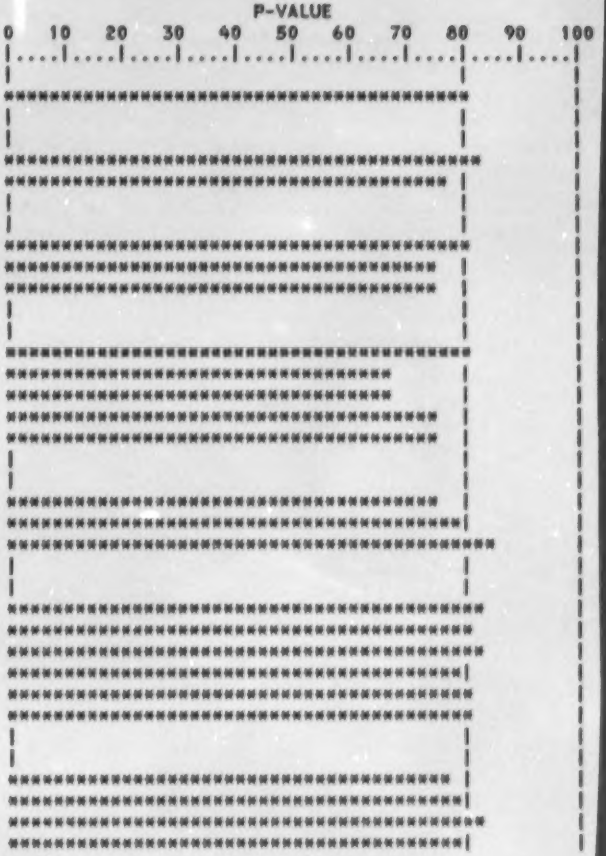


TABLE 8.3 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

DOMAIN 5. GRAPHS AND TABLES

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE		REPORTING GROUP
91.50	0.55			3916		ALL STUDENTS
----SEX OF THE STUDENT					----	
91.69	0.69	0.20	0.30	1921		MALE
91.82	0.39	0.32	0.42	1900		FEMALE
----RACE OF THE STUDENT					----	
92.07	0.45	0.58*	0.17	3568		WHITE
88.17	2.23	-3.32	2.07	130		BLACK
84.71	1.77	-6.79*	1.76	98		OTHER
----LANGUAGE SPOKEN IN YOUR HOME?					----	
92.28	0.41	0.79*	0.23	3578		ENGLISH
85.59	3.77	-5.91	3.68	40		SPANISH
83.44	2.07	-8.06*	2.13	65		PORTUGUESE
84.39	3.90	-7.11*	3.60	69		IT,GR,CH
81.62	2.91	-9.87*	2.65	61		OTHER
----FAMILY OCCUPATIONAL STATUS					----	
89.07	1.03	-2.43*	0.80	485		LOWER
91.35	0.64	-0.14	0.41	1311		MIDDLE
93.17	0.42	1.68*	0.45	1788		UPPER
----REGION OF THE STATE					----	
91.25	0.77	-0.25	0.82	882		BOSTON REG
91.01	1.07	-0.48	1.03	760		NORTHEAST
93.04	1.10	1.54	1.07	362		PITTSFIELD REG
91.07	0.50	-0.42	0.69	703		SOUTHEAST
93.43	0.48	1.94*	0.72	499		SPRINGFIELD REG
90.59	2.38	-0.91	1.97	710		CENTRAL MASS
----KIND OF COMMUNITY					----	
89.04	2.32	-2.46	1.92	897		BIG CITIES
91.49	0.61	-0.01	0.76	524		INDUSTRIAL
92.39	0.60	0.89	0.61	1474		RESIDENTIAL
91.98	0.64	0.48	0.68	1021		OTHER

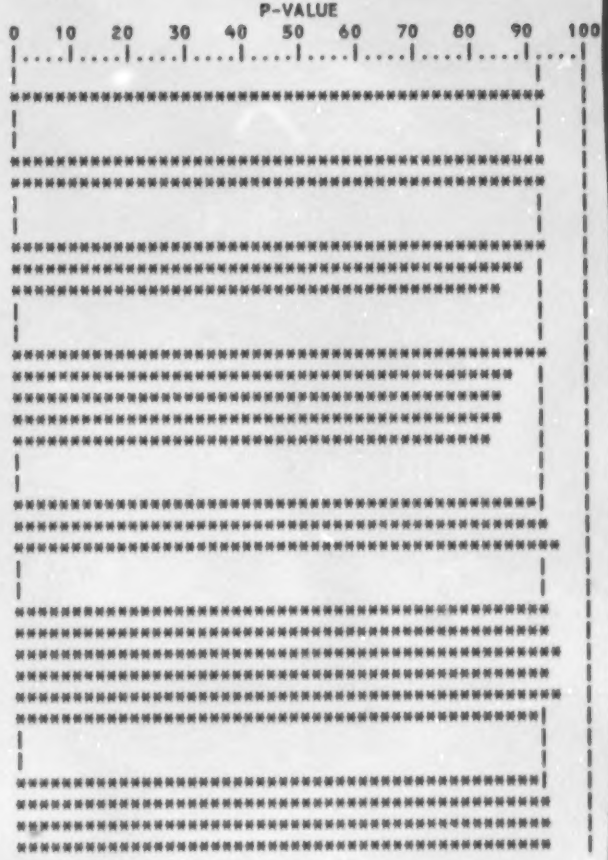


TABLE 8.3 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

DOMAIN 6. PREDICTION OF EVENTS AND STATISTICS

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE		REPORTING GROUP
94.33	0.58			3916		ALL STUDENTS
----SEX OF THE STUDENT					----	
94.53	0.71	0.20	0.33	1921		MALE
94.67	0.47	0.34	0.48	1900		FEMALE
----RACE OF THE STUDENT					----	
94.95	0.47	0.61*	0.18	3568		WHITE
91.06	2.02	-3.27	2.05	130		BLACK
86.32	2.87	-8.01*	2.77	98		OTHER
----LANGUAGE SPOKEN IN YOUR HOME?					----	
95.23	0.42	0.90*	0.25	3578		ENGLISH
84.18	5.06	-10.16*	5.05	40		SPANISH
83.23	2.51	-11.10*	2.50	65		PORTUGUESE
84.58	4.57	-9.84*	4.35	69		IT,GR,CH
87.85	3.66	-6.49	3.38	61		OTHER
----FAMILY OCCUPATIONAL STATUS					----	
92.12	1.21	-2.21*	1.00	485		LOWER
93.96	0.65	-0.37	0.34	1311		MIDDLE
95.98	0.38	1.65*	0.48	1788		UPPER
----REGION OF THE STATE					----	
93.93	0.65	-0.40	0.78	882		BOSTON REG
94.92	1.00	0.58	0.97	760		NORTHEAST
96.01	1.36	1.67	1.30	362		PITTSFIELD REG
94.27	0.53	-0.06	0.73	703		SOUTHEAST
96.41	0.63	2.07*	0.84	499		SPRINGFIELD REG
91.98	2.40	-2.36	1.98	710		CENTRAL MASS
----KIND OF COMMUNITY					----	
92.48	2.42	-1.85	1.99	897		BIG CITIES
94.94	0.99	0.61	1.04	524		INDUSTRIAL
95.16	0.56	0.83	0.63	1474		RESIDENTIAL
94.23	0.76	-0.10	0.75	1021		OTHER

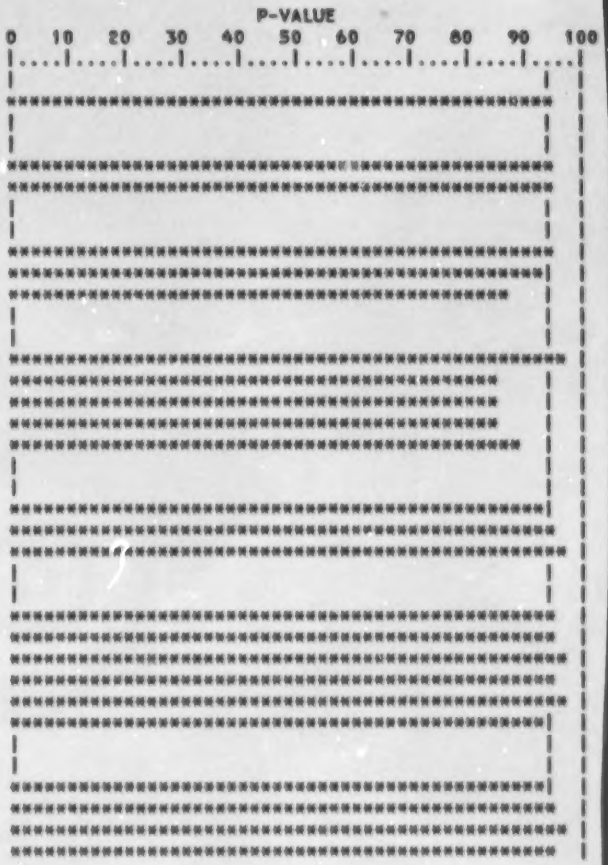


TABLE 8.4

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE READING — STUDENT QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
86.30	0.50			4038	ALL STUDENTS
----SEX OF THE STUDENT				----	
84.97	0.60	-1.33*	0.22	1953	MALE
87.77	0.46	1.48*	0.26	2004	FEMALE
----RACE OF THE STUDENT				----	
86.86	0.46	0.57*	0.12	3712	WHITE
79.39	1.54	-6.91*	1.33	137	BLACK
77.42	2.98	-8.88*	2.69	97	OTHER
----LANGUAGE SPOKEN IN YOUR HOME?				----	
86.97	0.43	0.67*	0.12	3728	ENGLISH
72.69	3.38	-13.61*	3.08	38	SPANISH
77.88	2.55	-8.42*	2.57	67	PORTUGUESE
78.71	2.07	-7.59*	1.86	53	IT,GR,CH
76.80	3.11	-9.50*	2.82	78	OTHER
----FAMILY OCCUPATIONAL STATUS				----	
82.61	0.96	-3.69*	0.69	497	LOWER
85.29	0.48	-1.01*	0.36	1269	MIDDLE
88.52	0.45	2.22*	0.22	1947	HIGHER
----ARE STUDENTS REQUIRED TO LEARN SKILLS?				----	
87.50	0.46	1.20*	0.13	3390	YES
78.25	1.09	-8.05*	0.78	450	NO
----HOW GOOD IS TEACHING OF SKILLS?				----	
90.32	0.34	4.02*	0.33	1656	VERY GOOD
84.90	0.54	-1.39*	0.23	1638	GOOD
79.97	0.96	-6.33*	0.73	448	FAIR
73.25	2.23	-13.05*	2.05	104	POOR
----HOW OFTEN DO YOU HAVE DIFFICULTY READING----					
89.13	0.47	2.83*	0.16	2036	HARDLY EVER
84.30	0.57	-1.99*	0.25	1586	ONCE IN A WHILE
78.83	1.02	-7.47*	1.01	198	FAIRLY OFTEN
74.20	2.25	-12.10*	2.00	72	VERY OFTEN

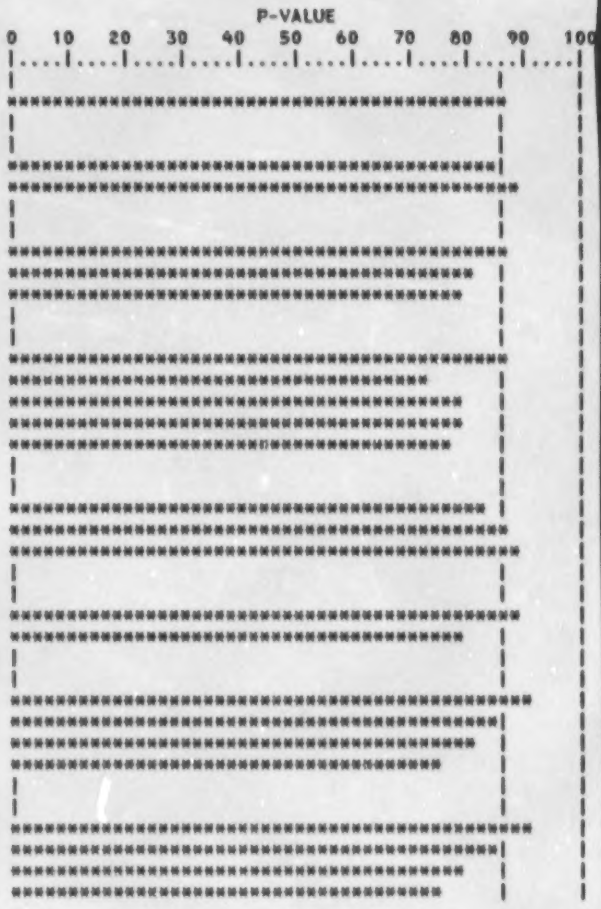


TABLE 8.4 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE READING — STUDENT QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
86.30	0.50			4038	ALL STUDENTS
----IN WHAT PROGRAM ARE YOU NOW ENROLLED? ----					
83.38	0.87	-2.92*	0.60	591	GENERAL
80.95	0.62	-5.35*	0.75	523	VOCATIONAL
90.40	0.35	4.10*	0.34	2112	COLLEGE
82.65	0.60	-3.65*	0.59	493	BUSINESS
74.01	1.87	-12.29*	1.52	163	I DON'T KNOW
----HOW DO YOU LIKE SCHOOL? ----					
79.94	1.19	-6.36*	0.99	271	I HATE IT
86.10	0.82	-0.20	0.68	424	I DON'T LIKE IT
84.98	0.56	-1.32*	0.27	1352	IT'S OK
88.86	0.49	2.56*	0.24	1216	I LIKE IT
87.79	0.83	1.49*	0.50	617	I LIKE IT A LOT
----ARE YOUR PARENTS INTERESTED IN SCHOOL? ----					
82.11	1.01	-4.19*	0.67	620	HARDLY EVER
85.67	0.50	-0.63*	0.23	1174	ONCE IN A WHILE
87.84	0.52	1.55*	0.29	1136	FAIRLY OFTEN
88.31	0.49	2.01*	0.36	947	VERY OFTEN
----HOW OFTEN ARE YOU GIVEN HOMEWORK? ----					
87.24	0.49	0.94*	0.34	1650	DAILY
85.75	0.60	-0.55	0.36	936	WEEKLY
85.90	0.74	-0.40	0.47	480	MONTHLY
85.80	0.85	-0.50	0.49	815	NOT VERY OFTEN
----HOW MUCH TIME DOING HOMEWORK? ----					
85.23	0.55	-1.07*	0.23	2207	AN HOUR OR LESS
87.85	0.54	1.55*	0.30	1134	BETWEEN 1+2 HRS
88.56	0.70	2.26*	0.50	391	BETWEEN 2+3 HRS
87.72	1.26	1.42	1.19	147	MORE THAN 3 HRS
----TEACHER PRESENTED IN AN INTERESTING WAY?----					
84.40	0.95	-1.90*	0.72	201	STRONG AGREE
87.08	0.51	0.78*	0.20	2230	AGREE
86.64	0.54	0.34	0.27	1242	DISAGREE
80.81	1.47	-5.49*	1.24	185	STRONG DISAGREE

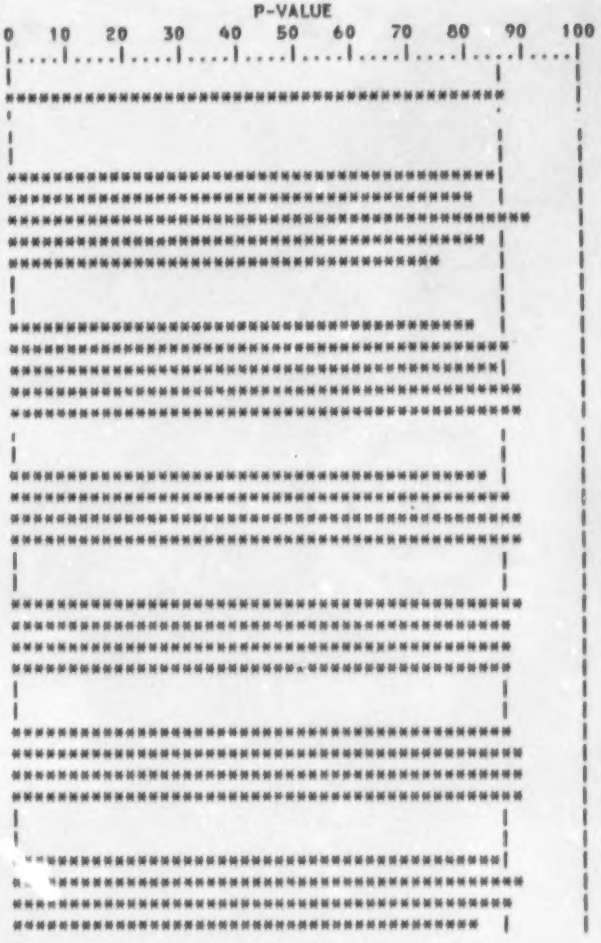


TABLE 8.4 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE READING — STUDENT QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
86.30	0.50			4038	ALL STUDENTS
----TEACHER HELP ME UNDERSTAND USEFULLNESS? ----					
82.50	0.91	-3.79*	0.70	388	STRONG AGREE
86.64	0.52	0.34*	0.17	1951	AGREE
87.72	0.45	1.42*	0.22	1224	DISAGREE
84.86	1.21	-1.44	1.01	297	STRONG DISAGREE
----TEACHER KNEW SUBJECT WELL? ----					
88.16	0.46	1.87*	0.25	1190	STRONG AGREE
86.66	0.50	0.36*	0.13	2326	AGREE
80.04	1.15	-6.26*	0.95	294	DISAGREE
75.27	2.98	-11.03*	2.78	60	STRONG DISAGREE
----TEACHER TAUGHT EFFECTIVELY? ----					
86.17	0.77	-0.13	0.49	426	STRONG AGREE
87.52	0.45	1.22*	0.16	2601	AGREE
83.93	0.77	-2.37*	0.44	742	DISAGREE
79.15	1.64	-7.15*	1.56	104	STRONG DISAGREE
----TEACHER HAD DIFFICULTY CONTROLL CLASS? ----					
80.71	0.78	-5.59*	0.65	252	STRONG AGREE
84.06	0.59	-2.24*	0.37	843	AGREE
88.01	0.46	1.71*	0.16	2228	DISAGREE
86.28	0.87	-0.02	0.52	548	STRONG DISAGREE
----TEACHER WAS WILLING EXTRA HELP? ----					
87.12	0.47	0.82*	0.26	1475	STRONG AGREE
87.13	0.51	0.83*	0.17	2043	AGREE
80.26	1.35	-6.04*	1.11	233	DISAGREE
76.70	2.15	-9.60*	2.02	95	STRONG DISAGREE
----STUDENTS CONTINUE EDUCATION - PREPARED? ----					
87.34	0.74	1.04*	0.48	839	STRONG AGREE
87.20	0.44	0.90*	0.19	2137	AGREE
84.36	0.73	-1.93*	0.51	685	DISAGREE
82.75	1.00	-3.55*	0.87	192	STRONG DISAGREE
----STUDENTS JOB - PREPARED? ----					
84.88	0.85	-1.42*	0.57	644	STRONG AGREE
87.05	0.50	0.75*	0.16	2063	AGREE
86.87	0.43	0.57*	0.28	953	DISAGREE
83.05	1.30	-3.24*	1.02	201	STRONG DISAGREE

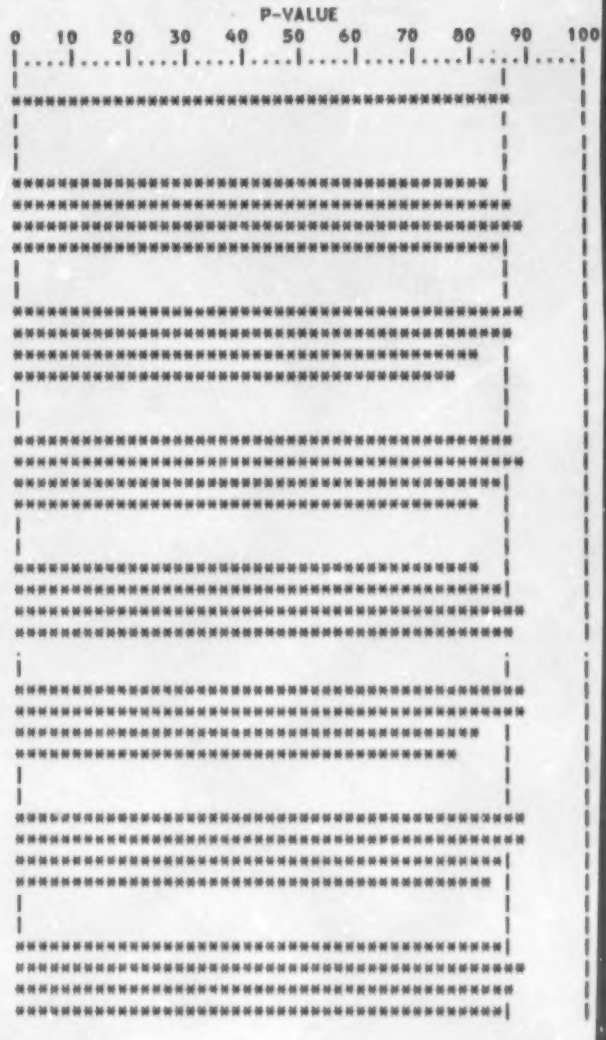


TABLE 8.4 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE READING — STUDENT QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
86.30	0.50			4038	ALL STUDENTS
----STUDENTS GRADUATE WITHOUT BASICS?				----	
85.28	0.75	-1.02	0.64	413	STRONG AGREE
87.09	0.61	0.79*	0.28	1115	AGREE
87.58	0.52	1.28*	0.22	1170	DISAGREE
85.13	0.59	-1.17*	0.27	1165	STRONG DISAGREE
----STUDENTS LEARN MORE THAN BASICS?				----	
85.55	0.64	-0.75*	0.29	1209	STRONG AGREE
87.28	0.47	0.98*	0.17	2019	AGREE
86.13	0.68	-0.17	0.48	478	DISAGREE
83.45	1.23	-2.85*	1.05	166	STRONG DISAGREE
----STUDENTS FIND CLASSES TOO EASY?				----	
82.00	1.12	-4.30*	0.92	189	STRONG AGREE
84.12	0.69	-2.18*	0.38	843	AGREE
87.94	0.40	1.64*	0.20	2424	DISAGREE
84.12	1.08	-2.18*	0.78	400	STRONG DISAGREE
----STUDENTS HAVE CHOICE ABOUT COURSES?				----	
86.63	0.72	0.33	0.43	957	STRONG AGREE
87.05	0.50	0.75*	0.18	1945	AGREE
86.27	0.61	-0.02	0.44	645	DISAGREE
82.22	1.01	-4.08*	0.92	316	STRONG DISAGREE
----STUDENTS ENCOURAGED IN CREATIVE AREAS?				----	
87.11	0.70	0.81	0.52	540	STRONG AGREE
87.41	0.51	1.11*	0.22	1602	AGREE
86.00	0.51	-0.30	0.31	1140	DISAGREE
84.25	0.84	-2.05*	0.54	549	STRONG DISAGREE

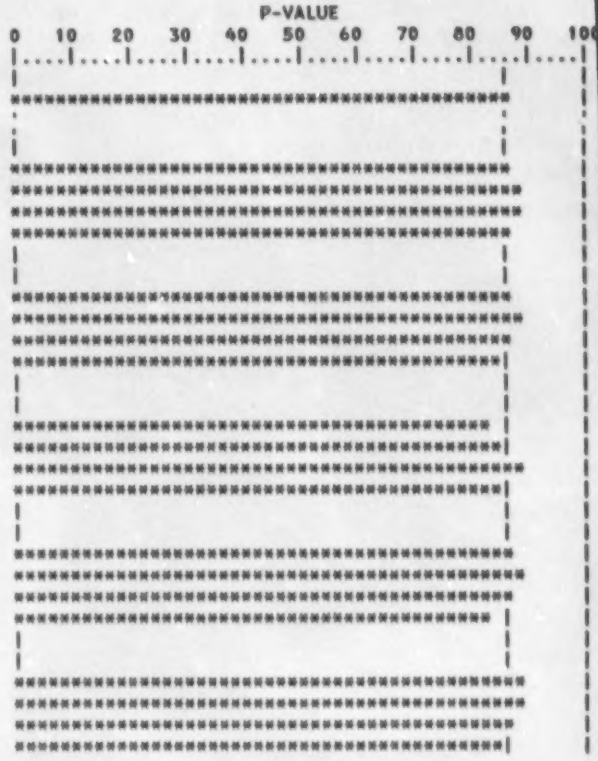


TABLE 8.5

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE READING — PRINCIPAL QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
86.30	0.50			4038	ALL STUDENTS
----REGION OF THE STATE				----	
86.53	0.91	0.23	0.89	671	BOSTON REG
85.83	1.43	-0.47	1.28	701	NORTHEAST
87.30	0.65	1.00	0.79	375	PITTSFIELD REG
85.68	0.58	-0.62	0.67	871	SOUTHEAST
87.85	0.93	1.55	0.98	519	SPRINGFIELD REG
85.40	2.00	-0.90	1.70	701	CENTRAL MASS
----KIND OF COMMUNITY				----	
83.86	1.57	-2.43	1.38	849	BIG CITIES
85.47	0.78	-0.83	0.85	522	INDUSTRIAL
87.77	0.79	1.47*	0.61	1542	RESIDENTIAL
86.22	0.82	-0.08	0.73	1125	OTHER
----QUANTITY OF ELECTIVE ENRICHMENT COURSES ----					
84.06	1.48	-2.24	1.54	252	EXCESSIVE
86.97	0.59	0.67	0.38	2719	JUST RIGHT
85.08	1.03	-1.21	0.88	1029	NOT ENOUGH
----QUANTITY OF REMEDIAL COURSES				----	
86.13	0.19	-0.17	0.54	119	EXCESSIVE
86.40	0.72	0.10	0.54	1864	JUST RIGHT
85.93	0.79	-0.37	0.55	1922	NOT ENOUGH
----PERCENT OF 12TH NOT RECEIVE DIPLOMA				----	
86.61	0.55	0.31	0.34	2998	0-4%
86.89	0.86	0.59	0.89	709	5-9%
80.94	4.59	-5.36	4.46	268	10-14%
----READING INSTRUCTION FOR LOW-ACHIEVING SS----					
85.61	0.95	-0.69	0.82	1143	REGULAR CLASSES
86.53	0.63	0.23	0.35	2744	SEPARATE CLASSES
----MATH INSTRUCTION FOR LOW-ACHIEVING SS				----	
85.79	0.72	-0.51	0.42	2326	REGULAR CLASSES
87.16	0.62	0.86	0.57	1618	SEPARATE CLASSES
82.28	0.23	-4.02*	0.55	94	OTHER
----WRITING INSTRUCTION FOR LOW-ACHIEVING SS----					
86.48	0.53	0.18	0.35	3049	REGULAR CLASSES
87.35	0.90	1.06	0.93	521	SEPARATE CLASSES
78.52	4.53	-7.78	4.39	183	OTHER

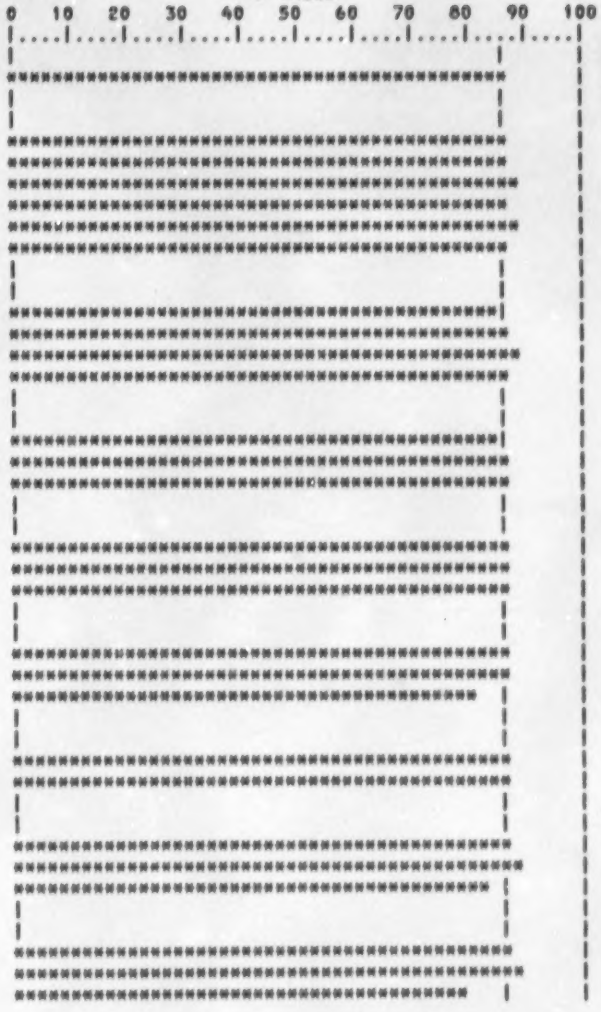


TABLE 8.5 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE READING — PRINCIPAL QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
86.30	0.50			4038	ALL STUDENTS
----PARENTAL SUPPORT OF SCHOOL POLICIES ----					
83.92	1.28	-2.38	1.35	280	FAIR
85.17	1.57	-1.12	1.30	905	AVERAGE
86.58	0.58	0.28	0.49	2121	GOOD
87.48	1.14	1.18	1.06	732	EXCELLENT
----EMPHASIS ON READING BASIC SKILLS ----					
87.19	0.65	0.89	0.48	2073	JUST RIGHT
84.98	0.73	-1.32*	0.56	1848	NOT ENOUGH
----EMPHASIS ON WRITING BASIC SKILLS ----					
88.00	0.63	1.70*	0.69	1038	JUST RIGHT
85.49	0.65	-0.81*	0.32	2883	NOT ENOUGH
----EMPHASIS ON MATH BASIC SKILLS ----					
86.77	0.55	0.47	0.41	2651	JUST RIGHT
84.91	1.04	-1.39	0.82	1270	NOT ENOUGH
----STATEMENT DESCRIBES ENGLISH COMPOSITION ----					
88.30	0.73	2.00*	0.74	793	ALL REQUIRED
87.01	0.93	0.71	1.04	102	SOME REQUIRED
88.80	1.74	2.50	1.67	309	NONE REQUIRED
85.26	0.64	-1.04*	0.39	2756	NOT SEPARATE
----STATEMENT DESCRIBES DEVELOPMENT READING ----					
87.14	2.55	0.84	2.49	170	ALL REQUIRED
85.98	0.70	-0.32	0.64	1449	SOME REQUIRED
86.35	0.93	0.05	0.74	1380	NONE REQUIRED
86.38	1.17	0.08	0.98	1039	NOT SEPARATE
----STUDENTS REQUIRED TO TAKE A MATH COURSE ----					
86.43	0.54	0.14	0.12	3647	YES
84.82	0.36	-1.48*	0.59	391	NO
----STUDENTS KNOW WHAT TO LEARN ----					
85.75	2.93	-0.55	2.80	241	STRONG AGREE
86.26	0.56	-0.04	0.25	3296	AGREE
86.59	1.14	0.29	1.14	501	DISAGREE

TABLE 8.5 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE READING PRINCIPAL QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
86.30	0.50			4038	ALL STUDENTS
----TEACHER ENCOURAGES DESIGN OWN COURSE ----					
87.61	2.22	1.32	2.08	360	STRONG AGREE
85.90	0.73	-0.40	0.43	2430	AGREE
85.97	0.71	-0.33	0.75	944	DISAGREE
88.29	0.51	1.99*	0.68	304	STRONG DISAGREE
----STUDENTS DO AS LITTLE AS POSSIBLE ----					
85.29	1.89	-1.01	1.72	405	STRONG AGREE
86.05	0.65	-0.24	0.46	2275	AGREE
86.83	0.95	0.53	0.78	1127	DISAGREE
86.91	0.40	0.61	0.64	65	STRONG DISAGREE
----SMALL GROUP STUDENTS DISRUPT LEARNING ----					
85.88	0.70	-0.42	0.70	1266	STRONG AGREE
87.05	1.10	0.75	0.94	956	AGREE
86.97	0.59	0.67	0.61	1392	DISAGREE
78.87	0.33	-7.42*	0.60	80	STRONG DISAGREE
----TEACHERS ADEQUATE TIME EXTRA HELP ----					
86.13	0.98	-0.17	0.96	566	STRONG AGREE
86.65	0.51	0.35	0.36	3036	AGREE
83.69	2.87	-2.61	2.64	436	DISAGREE
----TEACHERS WORK FOR IND. INST. ----					
86.67	1.06	0.37	1.16	97	STRONG AGREE
86.68	0.57	0.38	0.43	2439	AGREE
85.24	1.17	-1.06	0.89	1284	DISAGREE
----STUDENTS PREPARED TO CONTINUE EDUCATION ----					
87.92	0.91	1.62	0.86	969	STRONG AGREE
86.44	0.48	0.14	0.44	2721	AGREE
79.91	3.99	-6.39	3.83	348	DISAGREE
----STUDENTS PREPARED TO GET JOBS ----					
83.57	1.66	-2.73	1.54	567	STRONG AGREE
86.37	0.59	0.07	0.53	1846	AGREE
86.79	0.86	0.49	0.66	1519	DISAGREE
89.67	0.26	3.37*	0.57	27	STRONG DISAGREE

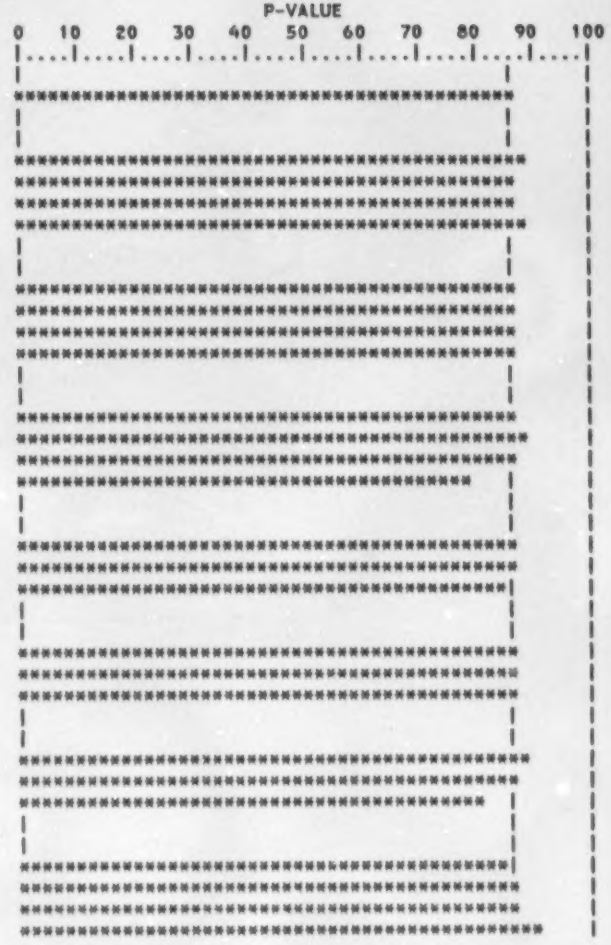


TABLE 8.5 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

TOTAL SCORE READING — PRINCIPAL QUESTIONNAIRE

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
86.30	0.50			4038	ALL STUDENTS
----STUDENTS GRADUATE WITHOUT KNOWLEDGE ----					
84.59	0.98	-1.71	1.06	294	STRONG AGREE
86.42	0.97	0.12	0.62	1747	AGREE
86.89	0.75	0.59	0.68	1423	DISAGREE
85.34	0.29	-0.96	0.58	188	STRONG DISAGREE
----STUDENTS LEARN OTHER USEFUL THINGS ----					
86.86	1.29	0.56	1.16	760	STRONG AGREE
85.98	0.57	-0.32	0.30	3174	AGREE
90.36	0.13	4.06*	0.52	104	DISAGREE
----STUDENTS FIND CLASSES TOO EASY ----					
84.30	1.51	-2.00	1.24	907	AGREE
86.81	0.48	0.51	0.39	2965	DISAGREE
----STUDENTS HAVE A CHOICE ABOUT CLASSES ----					
85.95	0.52	-0.35	0.64	1059	STRONG AGREE
87.75	0.63	1.45*	0.46	2274	AGREE
82.65	0.94	-3.65*	0.95	519	DISAGREE
79.97	2.34	-6.33*	2.24	186	STRONG DISAGREE
----STUDENTS ENCOURAGED IN CREATIVE AREAS ----					
87.08	0.62	0.78	0.72	854	STRONG AGREE
86.67	0.64	0.37	0.33	2811	AGREE
79.77	1.85	-6.53*	1.76	225	DISAGREE
83.72	1.56	-2.58	1.62	148	STRONG DISAGREE

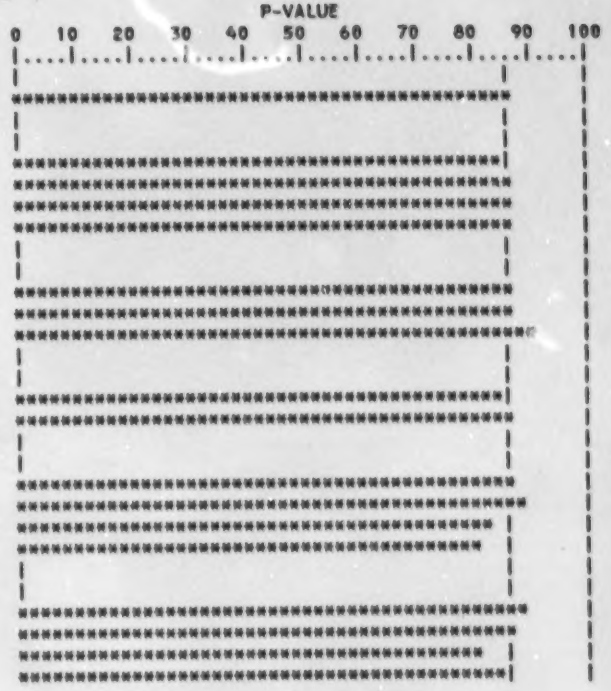


TABLE 8.6

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

DOMAIN 1. BASIC WORD MEANING

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE		REPORTING GROUP
90.75	0.44			4038		ALL STUDENTS
----SEX OF THE STUDENT					----	
89.99	0.50	-0.76*	0.21	1953		MALE
91.61	0.47	0.86*	0.22	2004		FEMALE
----RACE OF THE STUDENT					----	
91.29	0.40	0.54*	0.12	3712		WHITE
84.19	1.27	-6.56*	1.15	137		BLACK
81.55	2.88	-9.20*	2.63	97		OTHER
----LANGUAGE SPOKEN IN YOUR HOME?					----	
91.38	0.38	0.63*	0.13	3728		ENGLISH
77.37	3.79	-13.38*	3.55	38		SPANISH
79.65	2.22	-11.10*	2.20	67		PORTUGUESE
83.59	2.26	-7.16*	2.27	53		IT,GR,CH
83.11	3.21	-7.64*	3.00	78		OTHER
----FAMILY OCCUPATIONAL STATUS					----	
87.16	0.98	-3.59*	0.75	497		LOWER
90.35	0.49	-0.40	0.42	1269		MIDDLE
92.53	0.44	1.78*	0.24	1947		UPPER
----REGION OF THE STATE					----	
91.40	0.77	0.65	0.76	871		BOSTON REG
90.40	0.93	-0.35	0.90	701		NORTHEAST
92.22	0.26	1.47*	0.52	375		PITTSFIELD REG
89.84	0.65	-0.91	0.67	871		SOUTHEAST
91.44	1.38	0.69	1.30	519		SPRINGFIELD REG
89.99	1.77	-0.77	1.52	701		CENTRAL MASS
----KIND OF COMMUNITY					----	
88.21	1.38	-2.54*	1.21	849		BIG CITIES
91.12	0.82	0.37	0.84	522		INDUSTRIAL
92.29	0.55	1.54*	0.49	1542		RESIDENTIAL
90.18	0.78	-0.57	0.66	1125		OTHER

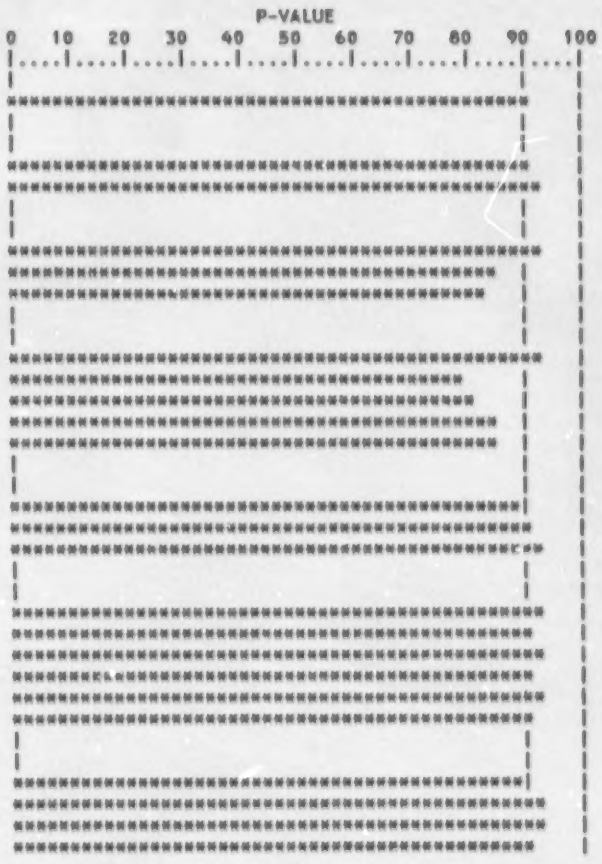


TABLE 8.6 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

DOMAIN 2. LITERAL COMPREHENSION

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE		REPORTING GROUP
91.03	0.49			4038		ALL STUDENTS
----SEX OF THE STUDENT					----	
89.51	0.61	-1.52*	0.22	1953		MALE
92.73	0.40	1.71*	0.26	2004		FEMALE
----RACE OF THE STUDENT					----	
91.57	0.43	0.54*	0.14	3712		WHITE
85.06	1.95	-5.96*	1.70	137		BLACK
82.81	3.34	-8.22*	3.04	97		OTHER
----LANGUAGE SPOKEN IN YOUR HOME?					----	
91.68	0.42	0.66*	0.13	3728		ENGLISH
77.86	3.48	-13.17*	3.15	38		SPANISH
84.56	3.22	-6.47*	3.17	67		PORTUGUESE
84.48	2.39	-6.55*	2.18	53		IT,GR,CH
80.72	3.35	-10.31*	3.07	78		OTHER
----FAMILY OCCUPATIONAL STATUS					----	
88.20	1.03	-2.83*	0.73	497		LOWER
90.38	0.51	-0.65	0.35	1269		MIDDLE
92.77	0.42	1.74*	0.21	1947		UPPER
----REGION OF THE STATE					----	
91.02	0.68	-0.00	0.74	871		BOSTON REG
90.76	1.43	-0.26	1.27	701		NORTHEAST
91.97	0.73	0.94	0.85	375		PITTSFIELD REG
90.91	0.42	-0.12	0.57	871		SOUTHEAST
92.54	0.94	1.51	0.97	519		SPRINGFIELD REG
89.65	2.06	-1.38	1.74	701		CENTRAL MASS
----KIND OF COMMUNITY					----	
88.92	1.67	-2.11	1.44	849		BIG CITIES
90.67	0.62	-0.36	0.73	522		INDUSTRIAL
91.88	0.80	0.86	0.61	1542		RESIDENTIAL
91.35	0.74	0.32	0.68	1125		OTHER

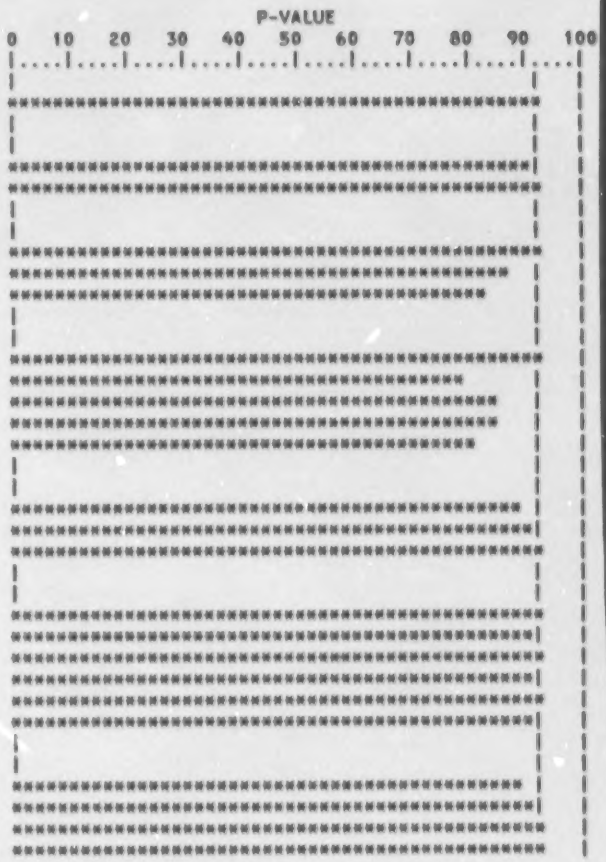


TABLE 8.6 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

DOMAIN 3. INTERPRETIVE COMPREHENSION

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE		REPORTING GROUP
83.15	0.67			4038		ALL STUDENTS
----SEX OF THE STUDENT					----	
81.91	0.84	-1.25*	0.32	1953		MALE
84.51	0.62	1.36*	0.37	2004		FEMALE
----RACE OF THE STUDENT					----	
83.78	0.62	0.62*	0.14	3712		WHITE
73.95	1.93	-9.20*	1.70	137		BLACK
73.70	3.54	-9.45*	3.21	97		OTHER
----LANGUAGE SPOKEN IN YOUR HOME?					----	
83.86	0.60	0.71*	0.14	3728		ENGLISH
66.84	4.55	-16.31*	4.19	38		SPANISH
74.44	3.67	-8.72*	3.70	67		PORTUGUESE
74.80	2.02	-8.35*	1.81	53		IT,GR,CH
72.91	3.41	-10.25*	3.07	78		OTHER
----FAMILY OCCUPATIONAL STATUS					----	
78.11	1.31	-5.04*	1.01	497		LOWER
81.46	0.65	-1.70*	0.47	1269		MIDDLE
86.24	0.59	3.09*	0.29	1947		UPPER
----REGION OF THE STATE					----	
82.90	1.28	-0.26	1.22	871		BOSTON REG
81.98	1.83	-1.17	1.66	701		NORTHEAST
84.86	1.02	1.71	1.12	375		PITTSFIELD REG
82.19	0.99	-0.96	1.00	871		SOUTHEAST
85.27	0.96	2.11	1.08	519		SPRINGFIELD REG
83.22	2.41	0.07	2.05	701		CENTRAL MASS
----KIND OF COMMUNITY					----	
80.82	1.93	-2.34	1.70	849		BIG CITIES
81.13	1.04	-2.03	1.13	522		INDUSTRIAL
85.03	1.08	1.88*	0.82	1542		RESIDENTIAL
82.95	1.11	-0.21	0.97	1125		OTHER

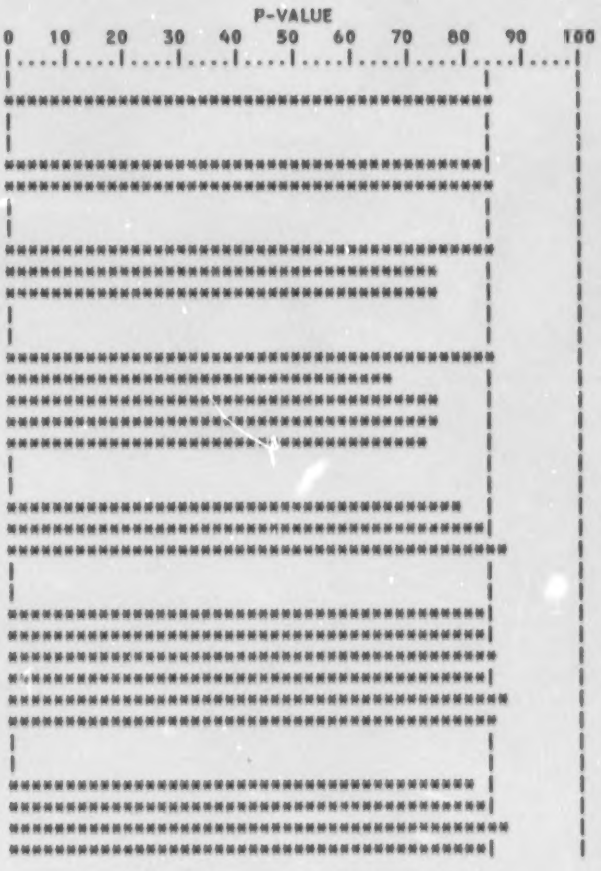


TABLE 8.6 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

DOMAIN 4. EVALUATIVE COMPREHENSION

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
70.46	0.73			4038	ALL STUDENTS
----SEX OF THE STUDENT				----	
69.00	0.77	-1.46*	0.31	1953	MALE
72.02	0.85	1.56*	0.35	2004	FEMALE
----RACE OF THE STUDENT				----	
71.14	0.73	0.69*	0.14	3712	WHITE
61.84	1.35	-8.61*	1.21	137	BLACK
59.39	2.95	-11.07*	2.75	97	OTHER
----LANGUAGE SPOKEN IN YOUR HOME?				----	
71.23	0.69	0.78*	0.19	3728	ENGLISH
56.40	3.79	-14.06*	3.72	38	SPANISH
55.94	1.87	-14.52*	2.04	67	PORTUGUESE
60.60	3.06	-9.86*	2.82	53	IT,GR,CH
61.41	3.78	-9.05*	3.48	78	OTHER
----FAMILY OCCUPATIONAL STATUS				----	
64.78	1.21	-5.72*	0.92	497	LOWER
68.40	0.73	-2.06*	0.60	1269	MIDDLE
73.87	0.82	3.41*	0.45	1947	UPPER
----REGION OF THE STATE				----	
71.40	1.87	0.94	1.67	871	BOSTON REG
70.55	1.90	0.09	1.76	701	NORTHEAST
70.52	1.07	0.06	1.26	375	PITTSFIELD REG
68.72	1.60	-1.74	1.39	871	SOUTHEAST
71.97	1.09	1.52	1.22	519	SPRINGFIELD REG
70.15	1.96	-0.31	1.77	701	CENTRAL MASS
----KIND OF COMMUNITY				----	
66.34	1.74	-4.12*	1.62	849	BIG CITIES
68.81	1.55	-1.65	1.54	522	INDUSTRIAL
73.66	1.06	3.20*	0.86	1542	RESIDENTIAL
69.59	1.36	-0.86	1.12	1125	OTHER

TABLE 8.6 (continued)

NATIONAL EVALUATION SYSTEMS, INC. -- CONTENT ANALYSIS BY REPORTING GROUPS
MASSACHUSETTS ASSESSMENT OF BASIC SKILLS 1978-79

DOMAIN 5. LOCATING INFORMATION

P-VALUE	SE OF P-VALUE	GROUP EFFECT	SE OF EFFECT	SAMPLE SIZE	REPORTING GROUP
87.60	0.42			4038	ALL STUDENTS
----SEX OF THE STUDENT				----	
86.23	0.53	-1.38*	0.23	1953	MALE
89.16	0.34	1.56*	0.26	2004	FEMALE
----RACE OF THE STUDENT				----	
88.01	0.38	0.41*	0.12	3712	WHITE
83.82	1.47	-3.79*	1.30	137	BLACK
80.72	2.71	-6.88*	2.49	97	OTHER
----LANGUAGE SPOKEN IN YOUR HOME?				----	
88.11	0.36	0.51*	0.12	3728	ENGLISH
78.97	3.50	-8.63*	3.26	38	SPANISH
84.51	3.03	-3.10	3.02	67	PORTUGUESE
80.13	2.74	-7.47*	2.66	53	IT,GR,CH
80.12	3.03	-7.49*	2.80	78	OTHER
----FAMILY OCCUPATIONAL STATUS				----	
86.13	0.97	-1.47	0.81	497	LOWER
87.07	0.51	-0.53	0.44	1269	MIDDLE
88.95	0.46	1.35*	0.25	1947	UPPER
----REGION OF THE STATE				----	
88.55	0.69	0.94	0.69	871	BOSTON REG
87.10	1.00	-0.50	0.92	701	NORTHEAST
87.70	0.70	0.10	0.78	375	PITTSFIELD REG
87.47	0.36	-0.13	0.48	871	SOUTHEAST
89.44	0.67	1.84*	0.74	519	SPRINGFIELD REG
85.56	1.61	-2.04	1.36	701	CENTRAL MASS
----KIND OF COMMUNITY				----	
86.05	1.28	-1.56	1.11	849	BIG CITIES
86.86	0.48	-0.74	0.59	522	INDUSTRIAL
88.29	0.73	0.68	0.53	1542	RESIDENTIAL
87.93	0.60	0.33	0.57	1125	OTHER

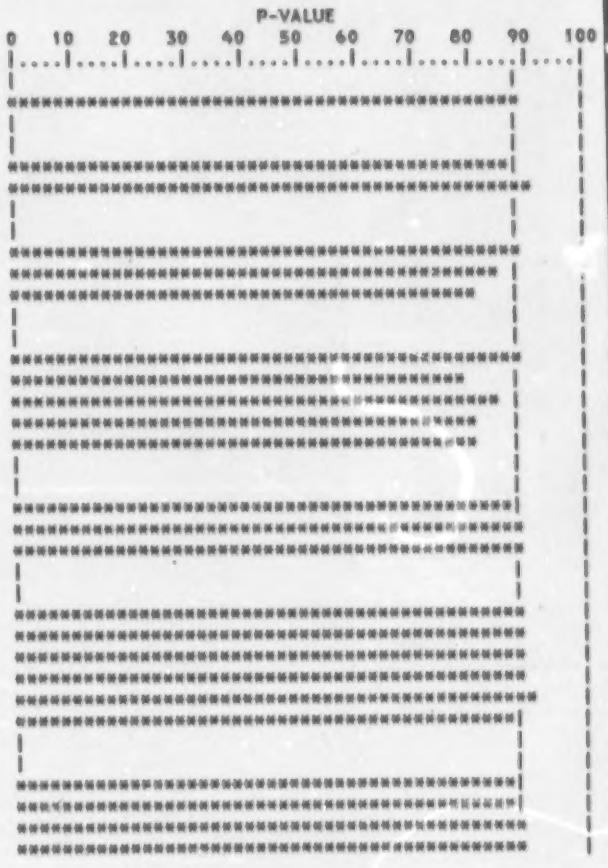


TABLE 8.7

Mean Scores for Writing Items by Reporting Groups: Student Questionnaire

Item	Item 1		Item 2	
	Sample Size	Mean Score	Sample Size	Mean Score
ALL STUDENTS	3190	5.2	3053	5.3
You are:				
male	1477	4.8	1362	4.9
female	1677	5.7	1658	5.6
You are:				
white	2953	5.3	2832	5.4
black	114	4.8	106	4.9
other	76	4.7	72	4.3
What language is spoken in your home most of the time?				
English	3002	5.3	2878	5.3
Spanish	23	4.6	21	4.6
Portuguese	59	4.9	57	4.4
Italian, Greek, or Chinese	28	4.7	26	4.2
other	29	4.8	28	5.0
Socio-economic status:				
lower	385	4.9	364	4.7
middle	1018	5.1	954	5.1
higher	1444	5.4	1404	5.6

Item	Item 1		Item 2	
	Sample Size	Mean Score	Sample Size	Mean Score
Region:				
Boston Region	649	5.0	620	5.4
Northeast	664	5.2	618	5.0
Pittsfield Region	387	5.7	382	5.6
Southeast	571	5.3	[illegible]	[illegible]
Springfield Region	293	5.7	288	5.8
Central Mass.	626	5.1	585	5.1
Kind of community:				
Big Cities	613	5.1	572	5.0
Industrial Suburbs	529	5.0	493	5.1
Residential Suburbs	1097	5.3	1067	5.5
Other	951	5.3	921	5.3
Do you think students should be required to learn the skills measured by this test by the time they finish high school?				
yes	2595	5.3	2516	5.4
no	351	4.5	306	4.3
How good has your school been in teaching you the writing skills measured by this test?				
very good	535	5.5	521	5.9
good	1595	5.3	1542	5.3
fair	729	4.8	674	4.8
poor	99	4.7	94	4.6

NOTE: Because scores of "0" are not included in the calculation of mean scores, the sample sizes above do not include those students whose writing exercises were assigned scores of "0".

TABLE 8.7 (continued)

Item	Item 1		Item 2	
	Sample Size	Mean Score	Sample Size	Mean Score
How often are you required to write a paragraph or more as part of your school work or homework? (Consider such things as compositions, essays, reports.)				
three times a week or more often	431	5.4	418	5.5
once or twice a week	1357	5.3	1314	5.5
once or twice a month	837	5.2	798	5.2
once every few months or less often	335	4.6	305	4.5
Which of the following best describes the program or curriculum in which you are now enrolled?				
general program	427	4.6	403	4.8
vocational program	420	4.4	366	4.1
college-bound program	1596	5.6	1567	5.8
business (commercial) program	401	5.3	388	5.0
I don't know.	99	4.4	90	4.6
How do you like your school? Think about it OVERALL, not just today or this week.				
I hate it.	204	4.4	183	4.6
I don't like it very much.	317	5.1	297	5.2
It's O.K.	1101	5.0	1033	5.1
I like it fairly well.	877	5.5	863	5.5
I like it a lot.	460	5.4	448	5.7

Item	Item 1		Item 2	
	Sample Size	Mean Score	Sample Size	Mean Score
How often do your parents show an interest in what you do in school (for example, visiting your teachers at school or asking questions about your schoolwork or school activities)?				
hardly ever	457	4.8	425	4.8
once in a while	912	5.1	868	5.1
fairly often	907	5.3	875	5.4
very often	681	5.5	662	5.7
How often are you given homework or school assignments that involve drill work (e.g., practicing arithmetic problems or spelling words?				
three times a week or more often	1152	5.4	1119	5.5
once or twice a week	815	5.1	789	5.2
once or twice a month	394	5.1	376	5.3
once every few months or less often	599	5.1	550	5.0
How much time EACH DAY do you usually spend doing homework?				
an hour or less	1599	5.0	1490	5.0
between 1 and 2 hours	937	5.4	927	5.5
between 2 and 3 hours	285	5.8	284	6.1
more than 3 hours	114	5.6	109	6.0

TABLE 8.7 (continued)

Item	Item 1		Item 2	
	Sample Size	Mean Score	Sample Size	Mean Score
MOST OF THE TEACHERS WHO TAUGHT ME READING, WRITING, AND MATHEMATICS:				
presented the subject in an interesting way.				
strongly agree	153	5.1	145	5.4
agree	1628	5.3	1578	5.4
disagree	1033	5.2	980	5.2
strongly disagree	145	4.8	128	5.1
helped me understand how useful these skills will be in later life.				
strongly agree	285	5.0	271	5.1
agree	1502	5.2	1440	5.3
disagree	962	5.3	924	5.4
strongly disagree	213	5.2	199	5.3
knew the subject(s) well.				
strongly agree	932	5.4	910	5.5
agree	1797	5.2	1712	5.3
disagree	203	4.4	185	4.4
strongly disagree	30	4.3	27	4.0
were able to teach the subject(s) effectively.				
strongly agree	326	5.3	318	5.3
agree	1918	5.3	1846	5.4
disagree	625	4.9	581	5.0
strongly disagree	74	4.3	68	4.3
had difficulty controlling their classes.				
strongly agree	213	4.5	204	4.4
agree	630	4.9	601	4.9
disagree	1707	5.4	1640	5.5
strongly disagree	400	5.4	378	5.5
were willing to have students come to them for extra help.				
strongly agree	1181	5.4	1155	5.5
agree	1572	5.2	1494	5.2
disagree	146	4.7	132	4.6
strongly disagree	48	4.0	39	4.0
IN MY SCHOOL:				
students who want to continue their education after high school are well prepared to do so.				
strongly agree	568	5.4	547	5.6
agree	1663	5.2	1611	5.3
disagree	596	5.0	552	5.0
strongly disagree	125	5.0	114	5.0

TABLE 8.7 (continued)

Item	Item 1		Item 2	
	Sample Size	Mean Score	Sample Size	Mean Score
students who want to get a job after they graduate are well prepared to do so.				
strongly agree	467	5.0	433	5.1
agree	1677	5.2	1600	5.3
disagree	702	5.3	683	5.4
strongly disagree	106	5.3	108	5.4
students can graduate without knowing how to read, write, or do arithmetic very well.				
strongly agree	295	5.0	281	5.3
agree	876	5.3	833	5.4
disagree	947	5.2	900	5.3
strongly disagree	842	5.1	819	5.2
students learn many things besides reading, writing, and mathematics that will be useful to them after they leave high school.				
strongly agree	971	5.2	926	5.2
agree	1556	5.2	1487	5.3
disagree	357	5.2	346	5.4
strongly disagree	74	4.9	73	5.3

Item	Item 1		Item 2	
	Sample Size	Mean Score	Sample Size	Mean Score
most students find their classes too easy.				
strongly agree	117	4.6	113	5.1
agree	596	5.0	567	4.9
disagree	2000	5.3	1925	5.4
strongly disagree	229	5.2	213	5.3
students have a lot of choice about what courses they can take.				
strongly agree	773	5.4	749	5.5
agree	1469	5.2	1418	5.4
disagree	504	5.0	481	5.0
strongly disagree	207	4.6	180	4.6
students are encouraged to pursue their interests in creative areas such as art or music.				
strongly agree	481	5.4	468	5.6
agree	1235	5.3	1192	5.4
disagree	920	5.1	869	5.1
strongly disagree	316	4.8	297	5.0

TABLE 8.8

Mean Scores for Writing Items by Reporting Group: Principal Questionnaire

Item	Item 1		Item 2	
	Sample Size	Mean Score	Sample Size	Mean Score
ALL STUDENTS	3190	5.2	3053	5.3
What is your opinion of the quantity of the following course offerings in your school in relation to student needs and interests?				
elective enrichment courses				
excessive	164	4.9	153	4.9
just right	2176	5.3	2099	5.4
not enough	850	5.2	801	5.0
remedial courses				
excessive	118	5.5	113	5.2
just right	1533	5.1	1472	5.2
not enough	1465	5.3	1397	5.4
With respect to each of the following basic skill areas, which approach to providing instruction to low-achieving students PREDOMINATES in your school?				
WRITING				
instruction within regular classes	2362	5.2	2257	5.3
instruction in separate classes	517	5.6	501	5.5
other	107	5.3	97	4.6
Overall, how would you rate parental support of your school's instructional policies?				
poor	---	---	---	---
fair	198	5.2	182	4.7
average	778	5.3	748	5.4
good	1604	5.2	1542	5.3
excellent	610	5.3	581	5.3
What is your opinion of the amount of emphasis on basic skills instruction in your school in relation to the needs of the majority of your students?				
WRITING				
excessive	---	---	---	---
just right	677	5.3	670	5.5
not enough	2437	5.2	2310	5.2
Which of the following statements best describes the situation in grades nine through twelve of your school regarding ENGLISH COMPOSITION?				
ENGLISH COMPOSITION is taught as a separate course (apart from literature), and ALL students are REQUIRED to enroll.	693	5.6	669	5.6
ENGLISH COMPOSITION is taught as a separate course (apart from literature), and SOME students are REQUIRED to enroll.	46	4.5	47	5.7

NOTE: Because scores of "0" are not included in the calculation of mean scores, the sample sizes above do not include those students whose writing exercises were assigned scores of "0".

TABLE 8.8 (continued)

Item	Item 1 Sample Size	Item 1 Mean Score	Item 2 Sample Size	Item 2 Mean Score
ENGLISH COMPOSITION is offered as a separate course (apart from literature), but NO students are REQUIRED to enroll.	272	5.0	271	5.6
ENGLISH COMPOSITION is NOT taught as a separate course (apart from literature).	2145	5.2	2031	5.1
IN MY SCHOOL:				
most students know what they are expected to learn in their classes.				
strongly agree	220	5.0	198	4.8
agree	2574	5.3	2464	5.4
disagree	396	5.4	391	5.2
strongly disagree	---	---	---	---
teachers are encouraged to design their own courses.				
strongly agree	296	5.0	272	5.2
agree	1708	5.2	1644	5.3
disagree	824	5.3	799	5.3
strongly disagree	362	5.2	338	5.7
many students do only as little as they have to.				
strongly agree	433	5.5	411	5.3
agree	1778	5.2	1698	5.3
disagree	840	5.2	807	5.4
strongly disagree	53	5.6	52	6.0
in many cases, a small group of students disrupts learning.				
strongly agree	1089	5.3	1037	5.1
agree	715	5.3	696	5.3
disagree	1058	5.2	1023	5.6
strongly disagree	120	4.3	101	4.1
most teachers have adequate time to give students extra help.				
strongly agree	592	5.6	575	5.3
agree	2188	5.2	2102	5.4
disagree	410	4.9	376	5.0
strongly disagree	---	---	---	---
many teachers work hard to individualize instruction.				
strongly agree	212	6.0	207	5.5
agree	1715	5.2	1649	5.3
disagree	1156	5.1	1090	5.2
strongly disagree	---	---	---	---
students who want to continue their education after high school are well prepared to do so.				
strongly agree	752	5.6	729	5.5
agree	2143	5.1	2058	5.4
disagree	295	5.0	266	4.4
strongly disagree	---	---	---	---

TABLE 8.8 (continued)

Item	Item 1		Item 2	
	Sample Size	Mean Score	Sample Size	Mean Score
students who want to get a job after they graduate are well prepared to do so.				
strongly agree	551	5.1	501	4.7
agree	1349	5.3	1309	5.3
disagree	1196	5.3	1148	5.5
strongly disagree	20	4.7	20	6.5
students can graduate without knowing how to read, write, or do arithmetic very well.				
strongly agree	285	5.1	261	4.7
agree	1208	5.3	1167	5.4
disagree	1173	5.1	1107	5.4
strongly disagree	294	5.5	287	5.2
students learn many things besides reading, writing, and mathematics that will be useful to them after they leave high school.				
strongly agree	600	5.1	563	5.1
agree	2547	5.3	2448	5.3
disagree	43	5.4	42	5.7
strongly disagree	---	---	---	---

Item	Item 1		Item 2	
	Sample Size	Mean Score	Sample Size	Mean Score
most students find their classes too easy.				
strongly agree	---	---	---	---
agree	691	5.1	643	4.9
disagree	2413	5.3	2325	5.4
strongly disagree	---	---	---	---
students have a lot of choice about what courses they can take.				
strongly agree	810	5.3	785	5.3
agree	1650	5.4	1610	5.6
disagree	501	5.1	465	4.9
strongly disagree	229	4.1	193	3.7
students are encouraged to pursue their interests in creative areas such as art or music.				
strongly agree	581	5.3	564	5.5
agree	2185	5.3	2107	5.4
disagree	126	4.5	107	4.0
strongly disagree	298	5.4	275	5.0

APPENDIX A

Identification of Region and Kind of Community for Massachusetts School Districts

Identification of Region* and Kind of Community** for Massachusetts School Districts

School System	Region	KOC	School System	Region	KOC
Local Public Schools					
Abington	4	3	Bourne Union 10	4	4
Acton	2	3	Boxborough Union 42	2	4
Acushnet	4	4	Boxford Union 58	2	3
Agawam	5	4	Boylston Union 60	6	3
Amesbury	2	4	Braintree	1	3
Amherst Union 26	5	3	Brewster Union 54	4	4
Andover	2	3	Bridgewater	4	4
Arlington	1	3	Brimfield Union 61	6	4
Ashburnham Union 56	6	4	Brockton	4	1
Ashfield Union 65	3	4	Brookfield Union 61	6	4
Ashland	6	3	Brookline	1	3
Athol	6	4	Burlington	2	3
Attleboro	4	4	Cambridge	1	2
Auburn	6	2	Canton	1	3
Avon	1	3	Carlisle	2	3
Ayer	2	4	Carver Union 62	4	4
Barnstable	4	4	Chatham	4	4
Barre Union 63	6	4	Chelmsford	2	3
Bedford	2	3	Chelsea	1	2
Belchertown	5	4	Chesterfield Union 66	3	4
Bellingham	6	4	Chicopee	5	1
Belmont	1	3	Chilmark Union 19	4	4
Berkley Union 37	4	4	Clarksburg Union 43	3	4
Berlin Union 60	6	4	Clinton	6	4
Bernardston Union 18	3	4	Cohasset	1	3
Beverly	2	3	Concord	1	3
Billerica	2	4	Conway Union 38	3	4
Blackstone Union 44	6	4	Danvers	2	3
Bolton Union 47	6	4	Dartmouth	4	4
Boston	1	1	Dedham	1	3
Deerfield Union 38	3	4	Greenfield	3	4
Dennis Union 11	4	4	Groton Union 46	2	3
Dighton Union 37	4	4	Groveland Union 53	2	4
Douglas	6	4	Hadley	5	4
Dover Union 50	6	3	Halifax Union 31	4	4
Dracut	2	4	Hamilton Union 57	2	3
Dunstable Union 46	2	4	Hampden	5	4
Duxbury	4	3	Hancock Union 69	3	4
East Bridgewater	4	4	Hanover	4	3
East Brookfield Union 7	6	4	Hanson	4	4
Eastham Union 54	4	4	Hardwick Union 63	6	4
Easthampton	5	2	Harvard	6	4
East Longmeadow	5	3	Harwich	4	4
Easton	4	3	Hatfield	5	4
Edgartown Union 19	4	4	Haverhill	2	1
Erving Union 28	6	4	Hingham	1	3
Essex Union 48	2	4	Holbrook	1	3
Everett	1	2	Holden Union 64	6	3
Fairhaven	4	4	Holland Union 61	6	4
Fall River	4	1	Holliston	6	3
Falmouth	4	4	Holyoke	5	1
Fitchburg	6	1	Hopedale	6	4
Florida Union 43	3	4	Hopkinton	6	3
Foxborough	4	3	Hubbardston Union 63	6	4
Framingham	6	3	Hudson	6	3
Franklin	6	4	Hull	4	3
Freetown Union 34	4	4	Ipswich	2	4
Gardner	6	4	Kingston Union 31	4	4
Georgetown	2	4	Lakeville Union 34	4	4
Gill Union 18	3	4	Lancaster	6	4
Gloucester	2	4	Lanesborough Union 69	3	4
Goshen Union 66	3	4	Lawrence	2	1
Gosnold Union 37	4	4	Lee Union 29	3	2
Grafton	6	3	Leicester	6	4
Granby	5	4	Lenox	3	4
Granville Union 39	3	4	Leominster	6	1

* Region Definitions: 1 = Boston Region; 2 = Northeast Region; 3 = Pittsfield Region; 4 = Southeast Region; 5 = Springfield Region; 6 = Central Mass. Region

** KOC Definitions: 1 = Big city; 2 = Industrial suburb; 3 = Residential suburb; 4 = Other

School System	Region	KOC
Leverett Union 28	5	4
Lexington	1	3
Leyden Union 18	3	4
Lincoln	1	3
Littleton	2	3
Longmeadow	5	3
Lowell	2	1
Ludlow	5	4
Lunenburg	6	4
Lynn	2	2
Lynnfield	2	3
Malden	1	2
Manchester Union 48	2	3
Mansfield	4	4
Marblehead	2	3
Marion Union 55	4	4
Marlborough	6	4
Marshfield	4	3
Mashpee Union 1[illegible]	4	4
Mattapoisett Union 55	4	4
Maynard	2	4
Medfield	6	3
Medford	1	2
Medway	6	4
Melrose	1	3
Merrimac Union 53	2	4
Methuen	2	4
Middleborough	4	4
Middleton	2	3
Milford	6	4
Millbury	6	2
Millis	6	3
Millville Union 44	6	4
Milton	1	3
Monroe Union 43	3	4
Monson	5	2
Montague	3	4
Nahant	2	3
Nantucket	4	4
Natick	6	3
Needham	1	3
New Bedford	4	1
New Braintree Union 12	6	4
Newbury Union 68	2	3
Newburyport	2	4
New Salem Union 28	6	4
Newton	1	3
Norfolk	4	3
North Adams	3	4
Northampton	5	4
North Andover	2	3
North Attleborough	4	4
Northborough Union 3	6	3
Northbridge	6	4
North Brookfield Union	6	4
Northfield Union 18	3	4
North Reading	2	3
Norton	4	4
Norwell	4	3
Norwood	1	3
Oak Bluffs Union 19	4	4
Oakham Union 63	6	4
Orange	6	4
Orleans Union 54	4	4
Otis Union 29	3	4
Oxford	6	4
Palmer	5	4
Paxton Union 64	6	3
Peabody	2	2
Pelham Union 26	5	4
Pembroke Union 31	4	3
Petersham	6	4
Phillipston Union 1	6	4
Pittsfield	3	1
Plainville	4	4
Plymouth Union 62	4	4
Plympton Union 31	4	4
Princeton Union 64	6	4
Provincetown Union 14	4	4
Quincy	1	2
Randolph	1	3
Raynham	4	3
Reading	2	3
Rehoboth Union 37	4	4
Revere	1	2
Richmond Union 69	3	4
Rochester Union 55	4	4
Rockland	4	3
Rockport	2	3
Rowe Union 65	3	4
Rowley Union 68	2	4
Royalston Union 1	6	4
Rutland Union 64	6	4
Salem	2	2
Salisbury Union 68	2	4
Sandisfield Union 39	3	4
Sandwich Union 10	4	4
Saugus	2	3
Savoy Union 43	3	4
Scituate	4	3
Seekonk	4	3
Sharon	1	3
Sherborn Union 50	6	3
Shirley Union 42	2	4
Shrewsbury	6	3
Shutesbury Union 28	5	4
Somerset	4	4
Somerville	1	2
Southampton Union 66	3	4
Southborough Union 3	6	3
Southbridge	6	4
South Hadley	5	4
Southwick Union 39	3	4
Spencer	6	4
Springfield	5	1
Sterling Union 64	6	4
Stoneham	2	3
Stoughton	4	4
Stow Union 47	6	3
Sturbirdge Union 61	6	3
Sudbury	1	3
Sunderland Union 38	3	4
Sutton	6	4
Swampscott	2	3
Swansea	4	4
Taunton	4	4
Templeton Union 1	6	3
Tewksbury	2	3
Tisbury Union 19	4	4
Topsfield Union 58	2	3
Truro Union 14	4	4
Tyngsborough	2	4
Tyringham Union 29	3	4
Uxbridge	6	4
Wakefield	2	3
Wales Union 61	6	4
Walpole	1	3
Waltham	1	2
Ware	5	4
Wareham	4	4
Warren Union 12	6	2
Warwick Union 18	3	4
Watertown	1	2
Wayland	1	3

School System	Region	KDC
Webster	6	4
Wellesley	1	3
Wellfleet Union 54	4	4
Wendell Union 28	6	4
Wenham Union 57	2	3
Westborough	6	3
West Boylston	6	3
West Bridgewater	4	4
West Brookfield Union 12	6	4
Westfield	5	4
Westford	2	3
Westhampton Union 66	3	4
Westminster Union 56	6	4
West Newbury Union 53	2	4
Weston	1	3
Westport	4	4
West Springfield	5	4
West Tisbury Union 19	4	4
Westwood	1	3
Weymouth	1	3
Whately Union 38	3	4
Whitman	4	4
Wilbraham	5	3
Williamsburg Union 66	3	4
Williamstown	3	3
Wilmington	2	3
Winchendon	6	4
Winchester	2	3
Winthrop	1	3
Woburn	2	3
Worcester	6	1
Wrentham	4	3
Yarmouth Union 11	4	4

Academic Regional Schools

School System	Region	KDC
Acton-Boxborough	2	3
Adams-Cheshire	3	4
Amherst-Pelham	5	3
Ashburnham-Westminster	6	4
Athol-Royalston	6	4
Berkshire Hills	3	4
Berlin-Boylston	6	3
Blackstone-Millville	6	4
Bridgewater-Raynham	4	4
Buckland-Shelburne	3	4
Central Berkshire	3	3
Concord-Carlisle	1	3
Dennis-Yarmouth	4	4
Dighton-Rehoboth	4	4
Dover-Sherborn	6	3
Dudley-Charlton	6	4
Freetown-Lakeville	4	4
Frontier	3	4
Gateway	3	4
Gill-Montague	3	4
Groton-Dunstable	2	3
Hamilton-Wenham	2	3
Hampden-Wilbraham	5	3
Hampshire	3	4
Hawlemont	3	4
King Philip	4	3
Lincoln-Sudbury	1	3
Martha's Vineyard	4	4
Masconomet	2	3
Mendon-Upton	6	4
Mount Greylock	3	4
Mohawk Trail	3	4
Narragansett	6	3
Nashoba	6	4
Nauset	4	4
New Salem-Wendell	6	4

School System	Region	KDC
Northboro-Southboro	6	3
North Middlesex	2	4
Old Rochester	4	4
Pentucket	2	3
Pioneer Valley	3	4
Plymouth-Carver	4	4
Quabbin	6	4
Ralph C. Mahar	6	4
Silver Lake	4	3
Southern Berkshire	3	4
Spencer-East Brookfield	6	4
Tantasqua	6	4
Triton	2	4
Wachusett	6	3
Warren-West Brookfield	6	2
Whitman-Hanson	4	4

Vocational-Technical Regional Schools

School System	Region	KDC
Assabet Valley	6	3
Blackstone Valley Reg	6	4
Blue Hills Voc	1	3
Bristol-Plymouth Voc-Tech	4	4
Cape Cod Reg Voc	4	4
Franklin County	3	4
Greater Fall River	4	1
Greater Lawrence	2	1
Greater Lowell Voc-Tech	2	4
Greater New Bedford Voc-Tech	4	1
South Middlesex Voc-Tech Reg	6	3
Minuteman Voc-Tech	2	3
Montachusett Voc-Tech	6	4
Northern Berkshire Voc	3	4
Nashoba Valley Tech	2	3
Northeast Metro Voc	2	3
North Shore Reg Voc	2	3
Old Colony Reg Voc	4	4
Pathfinder Voc-Tech	6	4
Shawsheen Valley Voc-Tech	2	3
Southeastern	4	1
South Shore Voc-Tech	4	3
South Worcester County Voc	6	4
Tri County Reg Voc-Tech	6	4
Upper Cape Cod Voc-Tech	4	4
Whittier Voc	2	4

APPENDIX B

A Copy of the Student Questionnaire Instrument

Questions About You

Please answer the following questions. Select ONE answer for each question. Your responses will remain confidential. They will be used, in combination with the responses of other students, to describe the characteristics and opinions of students taking this test.

1. You are:

   A. male
   B. female

2. You are:

   A. white
   B. black
   C. other

3. What language is spoken in your home most of the time?

   A. English
   B. Spanish
   C. Portuguese
   D. Italian, Greek, or Chinese
   E. other

Please read the following job lists. Then answer Questions 4 and 5.

Category A: General laborer, factory or farm worker, gas station [illegible]dant, waiter, janitor, doorman, mail carrier, sanitation driver, trucker, bus driver, ga[illegible]ter, cook, machine operator, barber or beautician, delivery work, etc.

Category B: Skilled craftsperson, foreman, carpenter, mechanic, plumber, tailor, electrician, police officer, technician, practical nurse, bricklayer, fire fighter, baker, meat cutter, office or sales clerk, bank or store clerk, bookkeeper, mail clerk, secretary, cashier, etc.

Category C: Store or office manager, banker, business or [illegible]rm owner, government official, real estate or insurance agent, teacher, doctor, engineer, lawyer, social worker, public accountant, dentist, registered nurse, writer, artist, scientist, minister or rabbi, etc.

Category D: Stays at home, full-time student, unemployed

4. What kind of work does your father or male guardian usually do? Choose the category above that contains jobs *most like* the job he usually does.

   A. Category A
   B. Category B
   C. Category C
   D. Category D
   E. I don't have a father or male guardian, or I don't know what kind of job he does.

5. What kind of work does your mother or female guardian usually do? Choose the category above that contains jobs *most like* the job she usually does.

   A. Category A
   B. Category B
   C. Category C
   D. Category D
   E. I don't have a mother or female guardian, or I don't know what kind of job she does.

6. Do you think students should be required to learn the skills measured by this test by the time they finish high school?

A. yes
B. no

This question appeared on the Mathematics test only:

7. How good has your schooling been in teaching you the mathematics skills measured by this test?

A. very good
B. good
C. fair
D. poor

This question appeared on the Reading test only:

7. How good has your schooling been in teaching you the reading skills measured by this test?

A. very good
B. good
C. fair
D. poor

This question appeared on the Writing test only:

7. How good has your schooling been in teaching you the writing skills measured by this test?

Ⓐ very good
Ⓑ good
Ⓒ fair
Ⓓ poor

This question appeared on the Mathematics test only:

8. What is the LAST grade in which you took a mathematics course? Count any mathematics course you are now taking.

A. 9th grade or earlier
B. 10th grade
C. 11th grade
D. 12th grade

This question appeared on the Reading test only:

8. How often do you have difficulty reading things you need or want to read?

A. hardly ever
B. once in a while
C. fairly often
D. very often

This question appeared on the Writing test only:

8. How often are you required to write a paragraph or more as part of your schoolwork or homework? (Consider such things as compositions, essays, reports.)

Ⓐ three times a week or more often
Ⓑ once or twice a week
Ⓒ once or twice a month
Ⓓ once every few months or less often

9. Which of the following best describes the program or curriculum in which you are now enrolled?

A. general program
B. vocational program
C. college-bound program
D. business (commercial) program
E. I don't know.

10. How do you like your school? Think about it OVERALL, not just today or this week.

A. I hate it.
B. I don't like it very much.
C. It's O.K.
D. I like it fairly well.
E. I like it a lot.

11. How often do your parents show an interest in what you do in school (for example, visiting your teachers at school or asking questions about your school work or school activities)?

A. hardly ever
B. once in a while
C. fairly often
D. very often

12. How often are you given homework or school assignments that involve drill work (e.g., practicing arithmetic problems or spelling words)?

A. three times a week or more often
B. once or twice a week
C. once or twice a month
D. once every few months or less often

13. How much time EACH DAY do you usually spend doing homework?

A. an hour or less
B. between 1 and 2 hours
C. between 2 and 3 hours
D. more than 3 hours

Following is a set of statements numbered 14 through 26. Read each statement carefully and decide how much you agree or disagree. Fill in on your answer sheet:

A	if you STRONGLY AGREE with the statement
B	if you AGREE with the statement
C	if you DISAGREE with the statement
D	if you STRONGLY DISAGREE with the statement

MOST OF THE TEACHERS WHO TAUGHT ME READING, WRITING, AND MATHEMATICS:

14. presented the subject matter in an interesting way.
15. helped me understand how useful these skills will be in later life.
16. knew the subject(s) well.
17. were able to teach the subject(s) effectively.
18. had difficulty controlling their classes.
19. were willing to have students come to them for extra help.

IN MY SCHOOL:

20. students who want to continue their education after high school are well prepared to do so.
21. students who want to get a job after they graduate are well prepared to do so.
22. students can graduate without knowing how to read, write, or do arithmetic very well.
23. students learn many things besides reading, writing, and mathematics that will be useful to them after they leave high school.
24. most students find their classes too easy.
25. students have a lot of choice about what courses they can take.
26. students are encouraged to pursue their interests in creative areas such as art or music.

APPENDIX C

A Copy of the Principal Questionnaire Instrument

Massachusetts Assessment of Basic Skills 1978-79

PRINCIPAL QUESTIONNAIRE

Please answer the following questions. Responses to these items will be reported only in the aggregate. Confidentiality of individual responses is guaranteed. Thank you very much for your cooperation.

PLEASE RETURN IN THE ENCLOSED POSTAGE-PAID ENVELOPE

NO LATER THAN MARCH 30, 1979.

1. Please indicate who is completing this questionnaire.

   (1) ☐ Principal (2) ☐ other (please specify): _____

2. What is your opinion of the amount of system-wide testing that affects students in your school? (Check one.)

   (1) ☐ excessive

   (2) ☐ just right

   (3) ☐ not enough

What is your opinion of the quantity of the following course offerings in your school in relation to student needs and interests? (Check ONE box for each item.)

	Excessive	Just Right	Not Enough
3. elective enrichment courses	(1) ☐	(2) ☐	(3) ☐
4. remedial courses	(1) ☐	(2) ☐	(3) ☐

5. What percent of twelfth-graders in your school are not expected to receive a high school diploma this June? (Check one.)

   (1) ☐ 0- 4% (5) ☐ 20-24% (9) ☐ 40-44%

   (2) ☐ 5- 9% (6) ☐ 25-29% (10) ☐ 45-49%

   (3) ☐ 10-14% (7) ☐ 30-34% (11) ☐ 50% or more

   (4) ☐ 15-19% (8) ☐ 35-39%

With respect to each of the following basic skill areas, which approach to providing instruction to low-achieving students PREDOMINATES in your school? (Check one box for each subject.)

	Instruction within Regular Classes	Instruction in Separate Classes	Other
6. READING	(1) ☐	(2) ☐	(3) ☐
7. MATHEMATICS	(1) ☐	(2) ☐	(3) ☐
8. WRITING	(1) ☐	(2) ☐	(3) ☐

9. Overall, how would you rate parental support of your school's instructional policies? (Check one.)

   (1) ☐ poor

   (2) ☐ fair

   (3) ☐ average

   (4) ☐ good

   (5) ☐ excellent

A number of methods have been suggested to improve basic skills instruction in today's schools. The methods, involving either additional resources or reallocation of existing ones, include:

(1) more tutorial or remedial classes
(2) better basic skills instructional materials
(3) more inservice training for teachers
(4) more teachers who specialize in basic skills instruction
(5) more time and resources available for curriculum planning and development
(6) more teacher aides
(7) more emphasis on basic skills within the regular instructional program
(8) other (please specify below)

10. Which ONE of the above would provide the MOST help in improving basic skills instruction in your school? That is, which would be your highest priority? (Check ONLY ONE.)

(1) ☐ (2) ☐ (3) ☐ (4) ☐ (5) ☐ (6) ☐ (7) ☐
(8) ☐ _____

11. Which of the above would be your SECOND choice; that is, your next highest priority? (Check ONLY ONE.)

(1) ☐ (2) ☐ (3) ☐ (4) ☐ (5) ☐ (6) ☐ (7) ☐
(8) ☐ _____

What is your opinion of the amount of emphasis on basic skills instruction in your school in relation to the needs of the majority of your students? (Check one box for each subject area.)

	Excessive	Just Right	Not Enough
12. READING	(1) ☐	(2) ☐	(3) ☐
13. WRITING	(1) ☐	(2) ☐	(3) ☐
14. MATHEMATICS	(1) ☐	(2) ☐	(3) ☐

15. Which of the following statements best describes the situation in grades nine through twelve of your school regarding ENGLISH COMPOSITION? (Check one.)

(1) ☐ ENGLISH COMPOSITION IS TAUGHT AS A SEPARATE COURSE (apart from literature), and ALL students are REQUIRED to enroll.

(2) ☐ ENGLISH COMPOSITION is taught as a separate course (apart from literature), and SOME students are REQUIRED to enroll.

(3) ☐ ENGLISH COMPOSITION is offered as a separate course (apart from literature), but NO students are REQUIRED to enroll.

(4) ☐ ENGLISH COMPOSITION is NOT taught as a separate course (apart from literature).

16. Which of the following statements best describes the situation in grades 9 through 12 of your school regarding DEVELOPMENTAL READING? Please answer regarding developmental reading, as distinguished from literature and remedial reading courses. (Check one.)

(1) ☐ DEVELOPMENTAL READING is taught as a separate course, and ALL students are REQUIRED to enroll.

(2) ☐ DEVELOPMENTAL READING is taught as a separate course, and SOME students are REQUIRED to enroll.

(3) ☐ DEVELOPMENTAL READING is offered as a separate course, but NO students are REQUIRED to enroll.

(4) ☐ DEVELOPMENTAL READING is NOT taught as a separate course.

17. Do you require ALL students in your school to enroll in at least one MATHEMATICS course sometime during grades 9, 10, 11, OR 12?

(1) ☐ yes (2) ☐ no

For 1978-79, has your district provided for staff and curriculum development in any of the following ways? (Check one box for each item.)

		Yes	No
18.	inservice with credit	(1) ☐	(2) ☐
19.	inservice without credit	(1) ☐	(2) ☐
20.	half-day(s) released time	(1) ☐	(2) ☐
21.	full-day(s) released time	(1) ☐	(2) ☐
22.	visiting consultants	(1) ☐	(2) ☐
23.	financial support for attending in-state conferences	(1) ☐	(2) ☐
24.	professional days	(1) ☐	(2) ☐
25.	summer curriculum development work	(1) ☐	(2) ☐

The purpose of the following set of questions is to help us to gauge the impact of the Basic Skills Improvement Policy on the general climate of Massachusetts secondary schools. As noted above, your responses will be reported in the aggregate only.

For the following 13 statements, read each statement carefully, decide how much you agree or disagree, and check the appropriate box.

IN MY SCHOOL:	Strongly Agree	Agree	Disagree	Strongly Disagree
26. most students know what they're expected to learn in their classes.	(1) ☐	(2) ☐	(3) ☐	(4) ☐
27. teachers are encouraged to design their own courses.	(1) ☐	(2) ☐	(3) ☐	(4) ☐

IN MY SCHOOL:	Strongly Agree	Agree	Disagree	Strongly Disagree
28. many students do only as little as they have to.	(1) ☐	(2) ☐	(3) ☐	(4) ☐
29. in many cases, a small group of students disrupts learning.	(1) ☐	(2) ☐	(3) ☐	(4) ☐
30. most teachers have adequate time to give students extra help.	(1) ☐	(2) ☐	(3) ☐	(4) ☐
31. many teachers work hard to individualize instruction.	(1) ☐	(2) ☐	(3) ☐	(4) ☐
32. students who want to continue their education after high school are well prepared to do so.	(1) ☐	(2) ☐	(3) ☐	(4) ☐
33. students who want to get a job after they graduate are well prepared to do so.	(1) ☐	(2) ☐	(3) ☐	(4) ☐
34. students can graduate without knowing how to read, write, or do arithmetic very well.	(1) ☐	(2) ☐	(3) ☐	(4) ☐
35. students learn many things besides reading, writing, and mathematics that will be useful to them after they leave high school.	(1) ☐	(2) ☐	(3) ☐	(4) ☐
36. most students find their classes too easy.	(1) ☐	(2) ☐	(3) ☐	(4) ☐
37. students have a lot of choice about what courses they can take.	(1) ☐	(2) ☐	(3) ☐	(4) ☐
38. students are encouraged to pursue their interests in creative areas such as art or music.	(1) ☐	(2) ☐	(3) ☐	(4) ☐

ACKNOWLEDGMENTS

ADVISORY COMMITTEE ON BASIC SKILLS IMPROVEMENT

* Robert Coelho (Chairperson)	Superintendent	Attleboro
* Jid Kamitian (Vice Chairperson)	Secondary School Principal	Holliston
Blair Arsenault	Secondary School Principal	Oakmont Regional
* Fred Andelman	Massachusetts Teachers Association	Boston
Daniel Barraford	Director of Project Cope	Framingham
Mildred Berkowitz	English Teacher	North Dartmouth
Fred Blanchard	Junior High School Principal	Randolph
Robert Bray	Secondary School Principal	Attleboro
Chris Caldwell	Student	Marblehead
George Curtin	School Committee	Westfield
John Deady	Superintendent	Springfield
* Thomas Deveney	Administrator	Boston
William Fasciano	Secondary School Principal	Somerville
Alwyn Griffith	Junior High School Principal	New Bedford
Edward Hall	New England Life	Boston
* Ann Keenan	Director of English	Braintree
* John Kent	Elementary School Principal	Holbrook
* Gail Latouf	Student	Boston
Steven Levine	Special Needs Coordinator	Bridgewater
* Benjamin Levy	Doctoral Candidate	Somerville
* John Monbouquette	Superintendent	Braintree
Gertrude Moskowitz	Parent	Pittsfield
* Margarita Muniz	Bilingual Department	Boston
* Edward Reidy	Project Competency	Fitchburg
Virginia Ross	English Department Head	Marshfield
* Charlotte Ryan	Massachusetts Parent-Teacher-Student Association	Orange
* Thomas Tanous	Guidance Counselor	Beverly
Eugene Thayer	Superintendent	Lawrence
Greg Thomas	Teacher	Boston
David Tobin	Superintendent	Assabet Valley Regional
Yolanda Ulloa	Bilingual Education Director	Springfield
* Harry Walen	Guidance Counselor	Needham
Philip Wormwood	Secondary School Principal	Andover
* Virginia Yardumian	School Committee	Malden

* STEERING COMMITTEE

ACKNOWLEDGMENTS (continued)

COMMUNICATIONS TASK FORCE

Ann Keenan (Chairperson)	Director of English	Braintree

Reading Committee

Owen O'Neil (Chairperson)	Director of Reading	Springfield
Pamela Almeida	Director of Reading	Reading
Peter Aquinde	Student	Cambridge
Judith Deckers	Higher Education	Bridgewater State
Mary Grant	Middle School Teacher	Boston
Michele Lawler	High School Teacher	Gateway Regional
Rita McNally	Right to Read Director	Stoughton
Doryce Moosey	Director of Reading	Worcester
Mary Young	Parent	Easthampton

Writing Committee

Barbara Krysiak (Chairperson)	Director of English	Waltham
John Burns	Director of English	Saugus
Patricia Carlson	English Department Head	Algonquin Regional
Frank Coen	English Department Head	Stoughton
Clyde Evans	Higher Education	University of Massachusetts
Ellen Guiney	Parent	Boston
Pamela Jones	Student	Boston
James McDermott	High School Teacher	Worcester
Norman Najimy	Director of English	Pittsfield
Jane Price	English Department Head	Amherst-Pelham Regional
James Temmallo	Language Arts Coordinator	Chelmsford

Listening/Speaking Committee

Eileen Malloy (Co-Chairperson)	English Department Head	Whitman-Hanson Regional
Virginia Ross (Co-Chairperson)	English Department Head	Marshfield
Rhoda Caesar	Elementary School Teacher	Pittsfield
Theresa D'Abre	Director of Language Arts	Dennis-Yarmouth Regional
Thomas Devine	Higher Education	Boston University
Joanne Gurry	High School Teacher	Marshfield
Patricia Keating	High School Teacher	Northampton
Judith McCaffrey	Reading Coordinator	Foxborough
William Merrill	Guidance Counselor	Lowell
Dorothy Messier	Elementary School Teacher	Weymouth
Cissy Picard	Parent	Chicopee
Jeanne Remondini	Elementary School Teacher	Weymouth
Maureen Tisei	English Department Head	Boston
Tanya Warren	Student	Boston
Ann Welch	Middle School Teacher	Clinton

ACKNOWLEDGMENTS (continued)

MATHEMATICS TASK FORCE

Benjamin Levy (Chairperson)	Doctoral Candidate	Somerville
Thomas Armstrong	Director of Mathematics	Foxborough
Julia Bale	High School Mathematics Teacher	Springfield
Bette A. Bridges	High School Science Teacher	Norwood
Beatrice Butler	Junior High Mathematics Teacher	Springfield
Joseph Caruso	Mathematics Department Head	Somerville
Leonore Fenn	Parent	Lexington
David Gosse	Mathematics Department Head	Triton Regional
Edward Hall	New England Life	Boston
Philip Halloran	Director of Mathematics	Springfield
James Pasquill	Assistant Superintendent	Old Rochester Regional
Ethan Shapiro	Student	Newton
John Tite	Mathematics Department Head	Grafton
Kay Tobin	Elementary Mathematics Specialist	Lexington

ASSESSMENT CONTRACTOR: 1978-79

National Evaluation Systems, Inc.
30 Gatehouse Road
Amherst, Massachusetts 01002

William Phillip Gorth, President

Sherry Ann Rubinstein
Martin B. Karlin
Michael W. Priestley
Paula M. Nassif
Paul D. Pinsky
Sharon L. Downs
Michael B. Rooney
Janice L. Johnson
James P. Stewart
Barbara H. Crossman